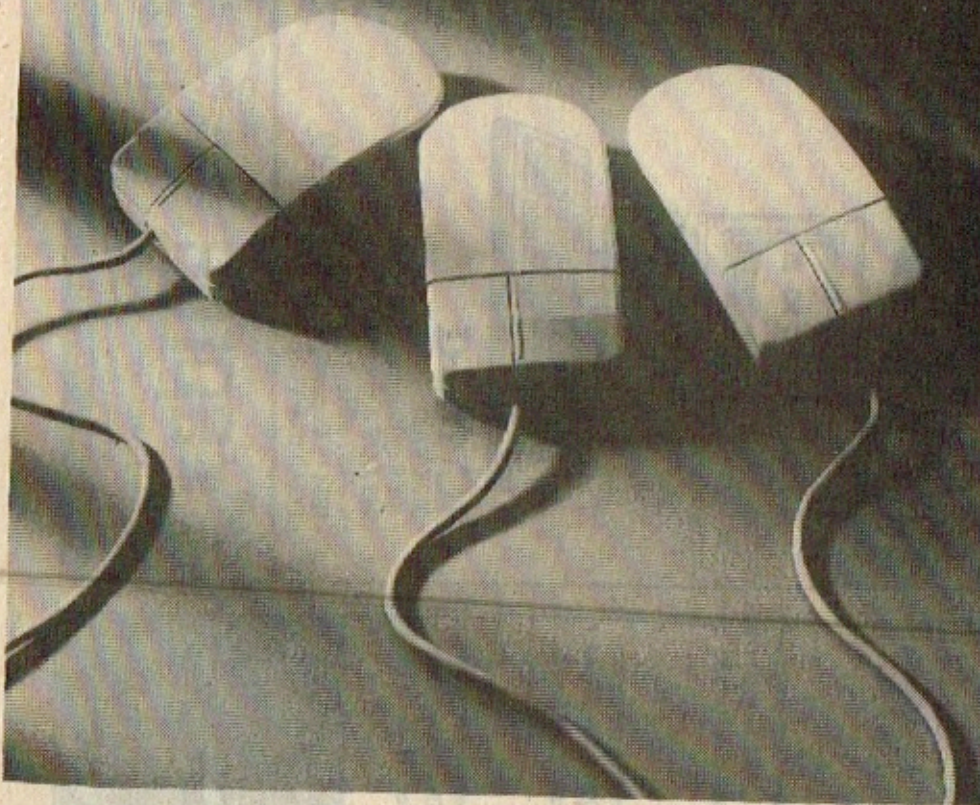


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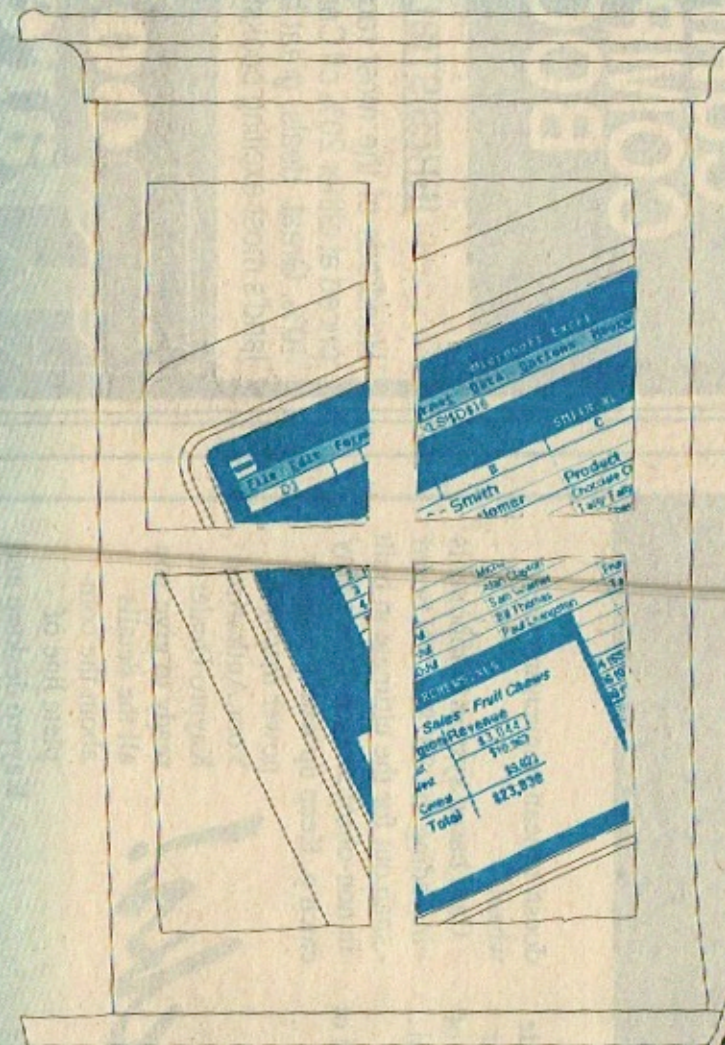
The COMPUTER PAPER

BRITISH COLUMBIA'S COMPUTER INFORMATION SOURCE

Vol 1, No. 9 October 1988

FREE

WINDOWS: The Future of PC Software?



WINDOWS REVIEWS:

PC Pagemaker • PC Excel • WinText • PackRat

NEW MACINTOSH DATABASES:

Filemaker II & FoxBase+/ Mac

NEWSBYTES:

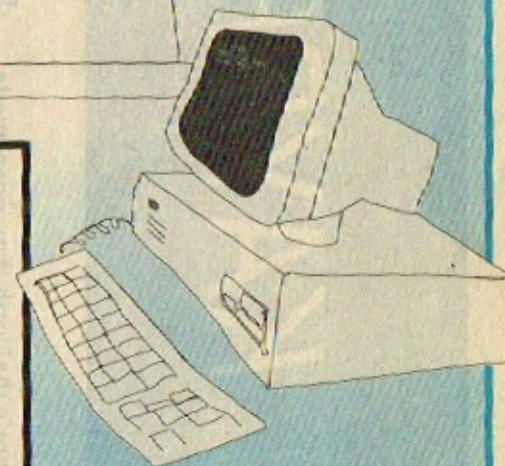
Seybold Show Report • IBM Re-releases AT Bus

PACIFIC RIM SHOW:

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TELEPLAN 2:

Medical Software Vendor's Association Speaks Out



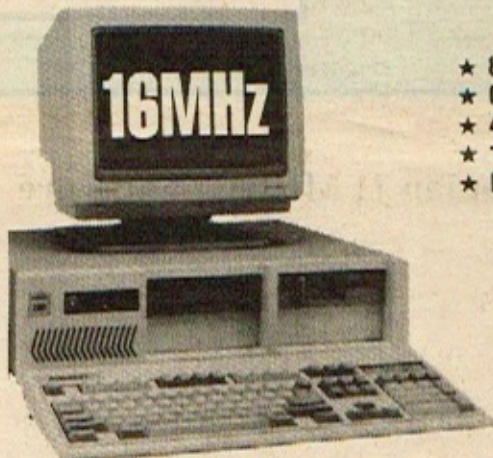
THE KAYPRO 286

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The COMPUTER PAPER

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Vol 1. No. 9 October 1988

FROM THE EDITOR



Windows and OS/2 seem destined to have a large impact on how we use computers in the near future. With solid programs like Microsoft Excel, Aldus Pagemaker, and the recently announced Adobe Illustrator for the PC (and rumours that a certain local accounting software vendor has a Windows version of their best selling product in the wings) emerging, it feels like this type of graphic interface is finally starting to mature. The PC user doesn't have to feel left out of the ease of use and the sense of down right fun that the Macintosh buyers have had for a number of years. Windows is here, and the programs are good quality, run well and they do save the user vast amounts of time in running them and using them.

Certainly there are still areas to overcome and improve. As Nelson Ruest points out in his article, installing fonts on the PC is still a disaster area. Very few people we have talked to seem to understand this area yet, but it will come. The Windows installation file, WIN.INI file feels like a programming nightmare compared to the slickness of the Mac System software (even if Apple did have to recall their latest Version 6.0 of the System)

But for all these faults, the PC has a number of great strengths, not the least of which is backward compatibility to thousands of great and essential MS-DOS programs. The huge number of users of IBM compatible computers guarantees that it will continue to be the major force in computing. The existence of compatible computers helps keep the prices down and a variety of products available. The strength of these clone makers is attested to by the recent announcement of a new Bus standard to compete directly with IBM's own Micro Channel Architecture. (See The Revolt of the Clones in the Newsbytes section.) Dynamic Data Exchange as explained in the Microsoft Interview with Blair Alsopp adds some exciting new dimensions to computer usage and you can't yet get it on the Mac. (yet) Add to this true multitasking on 386 based computers and some real speed, and you have an attractive combination.

The competition is definitely going to get tougher from here on in for Apple and their Macintosh line. They just raised their prices when many are complaining that they are already over priced.

The verdict, as usual, is still out on which is the best computer to buy, and you have to make your own decision depending on your own set of needs for a computer purchase. My only advice to you is to go graphic. Get something that utilizes the graphics interfaces available because it can save you a lot of time in learning and remember how it works.

Fall has arrived, and with it come the computer shows. The Computer Paper will be at the Pacific Rim Computer and Communications Show on November 1, 2 & 3. We would like to invite you all to come by the booth and let us know what you think of the paper. All of your input is much appreciated. Look forward to seeing you at the show. The November issue should be available for the show, so come and pick one up.

Bye til next issue,

Kirtan Singh Khalsa

Kirtan Singh Khalsa
Publisher/Editor

Coming Up in The Computer Paper:

NOVEMBER:

- 1) Word Processing
- 2) Pacific Rim Computer & Communications Show Guide: Doctor's Portion

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NEW PRODUCTS

HANDBOOK OF DESKTOP PUBLISHING, A Guide For Business & Professional People. By John C. Sans. Wordware Publishing Inc. 175 pp. Cdn. \$29.95.

The purpose of this book is to help you make an informed decision whether or not you need desktop publishing, and if so help you to choose the correct hardware and software for your present and future needs.

The book explains desktop publishing from concept to finished product, explains the types of hardware and software tools, and provides an approach (using checklists and cost justification) to selecting the hardware and software.

This book will not tell you whether to choose a Macintosh, PC-Compatible or a PS/2. Nor does it discuss the merits of Aldus Pagemaker or any other software package. Rather, it takes the approach of discussing features and leaving you to select a product that matches the list of features you decide on. That seems a sensible method, both hardware and software change so rapidly as vendors strive to make their products more competitive.

When you have read this book, you will have a good grasp of typography, including page layout, and know what features you will require in: a computer, graphics card, monitor, printer, and software. The book is very well illustrated, clearly written, and provides an excellent introduction to desktop publishing. - *Chris J. Metten*

Local Company Helps Drive Unix Market
WEST VANCOUVER, - George Pajari, President of Clarendon Dated Ltd., announced today that a new division called Driver Design Labs has been formed. This software consulting 'boutique' will provide highly specialized software development and consulting services to manufacturers and integrators of peripherals and interfaces.

Driver Design Labs specializes in the development of device driver software for UNIX, XENIX, and other operating systems. In addition to developing custom drivers for VARs, OEMs, and peripheral manufacturers, Driver Design Labs intends to develop a set of 'Do-It-Yourself' device driver kits for sophisticated end-users or VARs and OEMs with system programmers. A line of off-the-shelf drivers for UNIX and XENIX systems will also be developed and announced later this year.

Device drivers are the software that make it possible for an operating system to use a peripheral or interface. They convert the requests from the operating system into commands that the device understands. Without a device driver, no input, output, or storage device can be used.

Although UNIX and XENIX systems as sold by vendors such as AT&T, Santa Cruz Operation, Interactive Systems, and others include many device drivers, vendors of new hardware must sell their device with a device driver if UNIX and XENIX users are to be able to use it.

"Many peripheral manufacturers don't realize the contribution a quality device driver can make to the success of their products," says George Pajari, founder of Driver Design Labs. "The hardware may be great, but if the device driver doesn't work well, no one will ever know." The cost for a fully-custom device driver without royalties will range from \$5,000 to \$30,000 and up depending on the complexity. Do-it-yourself kits range from \$500 to \$5,000 depending on the number of copies to be sold and the complexity of the device. Royalty licences are also available.

Driver Design Labs anticipates that most of its business will come from companies with products in the MS-DOS or Macintosh world wishing to cross over into the UNIX, XENIX, and A/UX marketplace.

The need for such a service is growing according to Pajari, "With the U.S. government standardizing on UNIX for computer procurements, add-in-board vendors and systems integrators can no longer ignore UNIX. The predicted dollar volumes are staggering. But supporting an interface or peripheral in the UNIX market is much more technically demanding than in the MS-DOS world. The cost-effective way to enter the UNIX market and avoid the technical problems is to contract out device driver development."

TO THE EDITOR

Dear Editor/Publisher:

I just wanted to drop you a line to say "Bravo" for the wonderful job you and your staff are doing on THE COMPUTER PAPER. I really enjoy and always look forward to the next issue. The articles are timely and relevant. I really appreciate the news bulletin of what's happening in town. Overall, the entire paper is informative and entertaining. A real joy to read cover to cover.

Sincerely yours,
R. Alibudbud

Gentlemen:

Your survey is completed and enclosed. My overall comments and suggestions are to the effect that your paper is supremely helpful to the novice, however familiar he may be with computers already. The novice to Desktop Publishing, the novice to User Groups, and the novice to all aspects of computing can all gain from articles in Vol. 1, No. 8. I would ask that you make a concerted effort to meet the needs of the Novice - and avoid Tech only jargon which intimidates - and I think you'll never keep up with the demand. There are hundreds of people being introduced to the computer for the 1st time every day - and after a year and a half, I'm still learning daily!

Laird
Vancouver

Dear The Computer Paper

I do enjoy reading your paper, I'm sure it will get more popular in the future.

Your BBS list is a little out of date, the only way to get a recent one is to go on-line and get one.

I like the way you have your paper set-up, it seems to be very organized and well put together.

Here's an idea that might be useful if done: have a Bulletin Board Service up and running based on your paper, that way you would get all the latest news,
Paul
Vancouver

Thanks, it is in the works. - Editor

MASTHEAD

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NEWSBYTES

APPLE II

New Zip for Apple IIc
SAN FRANCISCO (NB) — Apple Computer has upgraded its home computer, the Apple IIc, with a faster microprocessor, a built-in power supply, and a built-in 3.5" disk drive. Apple made the announcement at AppleFest, a trade show at San Francisco's Brooks Hall.

The Apple IIc Plus is priced at US\$675 without monitor, a good US\$100 less than the original IIc pricing, clearly an effort by Apple to stay competitive in the highly price-sensitive home computer market. With monitor the cost is US\$859 compared to US\$950 for the earlier model. With a color monitor the cost is US\$1,099 compared to US\$1,203. Apple currently commands 12.4% of the home computer market in the U.S., according to Dataquest, a San Jose-based market research firm. Altogether Apple has sold 4.5 million units of the Apple II computers since their introduction in 1977.

Apple says the new Plus is three times faster than the original IIc and the internal drive has five times the original's storage.

New System Software for the IIGS
SAN FRANCISCO (NB) — Apple has introduced new system software that improves the speed and performance of the IIGS computer. System Software 4.0 for the IIGS includes the first 16-bit operating system for the stand-alone Apple IIGS. The heart of the software is called the GS/OS which speeds up boot time, disk access time and program launch time. It also allows access to large file systems, including the High Sierra system used in CD-ROM applications. The new operating system is compatible with ProDOS 16 and 8. There is also a revised Finder application.

Bundled free with all new IIGS computers, the system software is available separately, including two new utilities, from authorized Apple dealers for US\$39.

IIGS AppleWorks at Applefest
SAN FRANCISCO (NB) — Claris Corporation has taken the wraps off a new version of its immensely popular AppleWorks product — a IIGS version. The six-application AppleWorks IIGS includes spreadsheet, database, page layout, graphics, communications, and word processing which take advantage of the graphics and color of the IIGS computer.

Development of the product was done by StyleWare, a Houston firm which Claris acquired in June. It was originally named GS Works. Claris says its engineers have spent the last few months completing development and testing the product. Priced at US\$299, the product is slated to ship within 30 days. An upgrade from AppleWorks version 2.1 to AppleWorks GS is US\$99. All other version upgrades are US\$169. Registered owners of the product will receive notification of the new version by mail.

Activision Shows New Stuff at Applefest
MENLO PARK, Ca. (NB) — Activision planned to showcase several new products for the Apple II family at this year's Applefest, held from September 16 through 18 at San Francisco's Brooks Hall. - Teleworks Plus is the first Apple IIGS-dedicated communications program that provides easy access to information banks and electronic BBSs and online services.

- Paintworks Gold, the enhanced paint and animation program that offers advanced graphics capabilities such as 3-D perspective, color blending, frame animation, and a toolbox with more than 4,000 colors and patterns.

- The Music Studio 2.0 allows you to create original compositions with a MIDI set-up using a standard Apple IIGS interface.

In addition, Activision will showcase two new games for the IIs — Rampage and The Last Ninja — and its celebrated Macintosh HyperCard game called Manhole.

ATARI

Atari Chairman Jack Tramiel and rock star PETER GABRIEL will announce their assistance to Amnesty International at a news conference slated for September 23. The concert benefiting the human rights group will be in Oakland the next day. Stay tuned on this one.

Typing With No Keyboard for Atari XE
LOS ANGELES, Ca. (NB) — ANALOG COMPUTING magazine has a program that allows the handicapped to type without using a keyboard. Author John Pilge says of the program, which appears in the magazine's September issue, "As long as a person can make two inches of movement they can type a letter." The programs work using either a joystick or trackball to select characters to form words. Disk and printing commands are also possible.

The program is called JOYTYPE and will be in the public domain after October 2, 1988. The program must be typed in on an Atari XE computer.

B.C. BYTES

Bedford Hires Silicon Valley Vet
BURNABY, B.C. (NB) — Bedford Software Ltd. has hired Alex L. Morton, veteran marketer and Borland International Inc.'s first vice-president of marketing and sales. Morton becomes vice-president of marketing at Bedford. He succeeds Tom O'Flaherty, a co-founder of the accounting software vendor, who has resigned "to pursue other business initiatives," according to Bedford.

Morton designed the initial marketing strategy that started Borland's five-year climb to current annual sales of \$76.5 million. Most recently, he was president of the U.S. operations of Consumers Software Inc., a Vancouver software house.

Integra Signs Deal with BellSouth
VANCOUVER (NB) — Integra Systems Inc. has signed a deal with BellSouth Advanced Networks. The BellSouth subsidiary is to distribute advanced versions of Integra's SoftTerm EFT/POS terminal. Roslyn Stanley, a spokeswoman for Integra, said the three-year-old company has always been active in the U.S., but this is its first contract with one of the Bell operating companies and Integra is "really proud that they've chosen a small, start-up, Canadian company." The value of the deal isn't being announced, but it has the potential to be worth plenty to Integra, Stanley said.

ACCPAC Developer Program Growing
Vancouver, B.C., September 7, 1988 — COMPUTER ASSOCIATES INTERNATIONAL, INC. today announced 60% growth in its CA-ACCESS Development program, measured by revenue increases from fiscal 1987 to fiscal 1988.

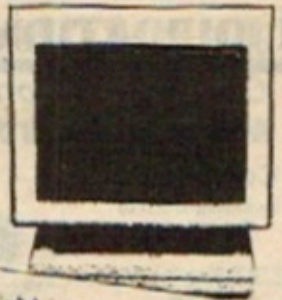
The outlook is equally bright for CA-ACCESS in 1989, giving the green light to the admission of as many as 100 new developers and consultants into the program. As a result, the number of industry-specific ACCPAC® Plus accounting applications is expected to increase substantially. CA-ACCESS is a comprehensive set of marketing support programs from Computer Associates for software developers, VARs, system integrators, and contract programmers. CA-ACCESS developers use Computer Associates' ACCPAC Plus core accounting applications as the foundation for Companion Products, and leverage off CA's marketing promotions to establish dealers and attract customers for their products. Developers then tie into an extensive network of more than 2,500 certified dealers and 1,000 accounting firms across the United States and Canada.

According to Norm Francis, Vice President, Canadian Operations for Computer Associates' Micro Products Division, "ACCPAC Plus and the CA-ACCESS strategy are unique in the number and range of solutions offered. There are currently more than 100 enhancements and vertical market applications from third party developers available for ACCPAC Plus. We have established ACCPAC Plus as the standard accounting system for all businesses by making available Companion Products that match individual vertical needs. The CA-ACCESS program brings users a comprehensive selection of vertical packages that match the high standards of ACCPAC Plus."

NEWSBYTES by Wendy Woods (Western USA), Ken Maize (Eastern USA), Dana Blankenhorn (South & Midwest USA), Masayuki Miyasawa and Keizo Yamamoto (Japan), Grant Buckler (Canada), Steve Gold (UK) and Peter Vekinis (Europe)
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Card-based system components - including the 80286 CPU board - snap out for the ultimate in built-in non-obsolescence. Don't play catch up. Keep up with the better power machine.

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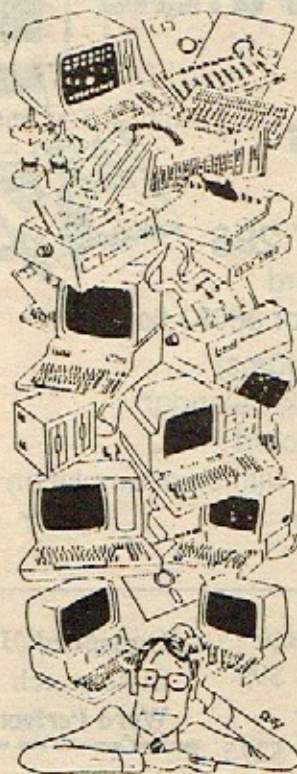
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The Colour of Black Design Contest

The Colour of Black, a competition and exhibit of the best of Vancouver's desktop publishing is an opportunity for Desktop Publishing professionals in Vancouver to show their best wares. The Colour of Black is an event to showcase the entries and winners of the 1988 VEPA Awards. Sponsored by the Vancouver Electronic Publishing Association (VEPA), Adobe Systems Inc., Letraset GDS, and Quark, The Colour of Black will feature an Open House and Awards Ceremony as well as the exhibit of entries. The Colour of Black competition closes September 30. The Colour of Black exhibit takes place October 21-28 at the World Trade Center, Canada Place, Cruise Ship Level. Opening Night and Awards Ceremony is Friday, October 21 from 7 to 10 p.m. (RSVP 224-6152).

The competition is open to anyone who designs and produces their material using desktop or electronic publishing methods (i.e. with minimal paste-up). Entrants will compete in eight categories, ranging from newsletters to corporate identity programs. A panel of six prominent members from the advertising, graphic design, and news media will judge the winners. Winners and runners-up in each category will receive a prize related to desktop publishing as well as Certificates of Merit. Phone 224-6152 to have a Call for Entry mailed to you. If you want to display your work, simply choose one or more of the 8 categories and submit your entry along with the completed entry form to the address below before October 12, 1988.

The panel of six judges includes: Ray Hymkow of Herrainco Graphic Design, Gerry Foster of Foster & Associates Design Co., Ken Koo of Slicko Studios Inc., Don Dickson of Vancouver Design Team Ltd., Peter Tregale, Creative Director of Baker Lovick Advertising, and Terry McDowell, McKim Advertising. Contact person: Marion Munro 4066 West 12th Avenue Vancouver, B.C. V6R 2P3 224-6152

Pacific Rim Computer And Communications Show

It's getting harder than ever to keep track of what's hot in the computer world. That's one good reason for visiting the 1988 Computer and Communication Show. Coming November 1, 2, and 3 to the Vancouver Trade and Convention Centre, this one-stop showcase of the latest in computer hardware, software, peripherals and data processing equipment is a must-see for firms and individuals wishing to keep pace with modern technology.

Advanced electronics isn't the only attraction, however. Six special features will address the human factor of this hi-tech era: These features are: The Total Office Environment, a display of how computers can help solve your office layout problems; Computer Animation, a seminar by Icon Computer Graphics detailing the uses of computer animation in today's business environment; Information Retrieval Centre, get access to thousands of on-line databases for up to the minute information on virtually any subject; Computerizing The Medical Office, a full day will be devoted to this seminar designed to help physicians comply with the new Teleplan 2 medical software requirements; Computer Satellite Imaging, a display of the latest PC based image processing systems that present a fascinating picture of life on earth and allow for analysis of mineral deposits, topography, soil patterns and forest growth; Art and Business Showcase, the art community will be represented featuring displays of paintings and sculptures by leading artists. Targeting businesses interested in improving their corporate image, this display will also be of interest to companies wishing to purchase original art as an investment. Show Times: November 1, and 2, 11:00 - 8:00; November 3, 11:00 - 6:00, all under the sails of the Vancouver Trade and Convention Centre. Admission is \$6.00.

Seminars for Manufacturers Planned

CompuFind, a local computer consulting company, is planning a series of seminars for manufacturers. The company has brought together four speakers who have worked with numerous manufacturers in a broad range of industries. They will discuss the important aspects of automating manufacturing, including accounting packages, automated distribution planning, an introduction to MRP, and an introduction to CAD/CAM.

Many manufacturers are feeling the pressure to automate to gain a competitive advantage. The benefits are numerous, including enhanced productivity, reduced administration effort, simplified production, increased sales and improved cash flow. To achieve these goals requires solid planning, which in turn, requires an awareness of what's available, and how to make the most of it.

These seminars will take place November 9th at the Holiday Inn on Broadway from 9 a.m. to 5 p.m. Manufacturers have a choice between all four seminars plus lunch for \$295, or two seminars of their choosing for \$195. For more information or to RSVP, contact Angela Rawson at 669-5588.

Silicon Northwest Goes to Vegas for COMDEX

The next Silicon Northwest Press Reception will be held the evening of November 16th in Las Vegas, Nevada, during Fall Comdex. This date is important to reserve for the micro computer companies who want to meet and talk to the editors of the business and industry press.

As of August 25th, eighteen companies from the Northwest have signed up for Silicon Northwest. These companies include: Buttonware, Quicksoft, Mannesmann Tally, Raina, Revelation Technologies, Bedford Software, Aristotle, Advanced Gravis, Cougar Mountain Software and more. The deadline for sponsorships will be September 16th. If space permits, last minute sign ups will be permitted, to a maximum of 40 sponsors.

A training session for the Silicon Northwest event is planned. Ginger Brewer Associates will be coordinating and producing a hands-on workshop called "How to Meet the Press". Editors have indicated that there is a need for the Sponsors to learn how to talk with the press. These comments are partly due to the inexperienced company/staff members who are brought in to help with the event and have not had any press relations training.

A 3-hour session has been developed which will give company representatives information on communicating with the press and an opportunity to work directly with editors. This workshop will be held in early October.

Contact: Silicon Northwest or Ginger Brewer Associates, 2100 - 124th NE, Bellevue, WA 98005, or call (206) 882-3073.

CANADIAN NEWS

Dell Launches Canadian Operations

TORONTO (NB) — Dell Computer Corp. chose the official launch of its Canadian subsidiary Sept. 15 as the occasion to launch a new computer using a 25-megahertz 80386 processor. Dell claims its new System 325 is the fastest PC on the market, beating the Compaq 386/25 and the IBM PS/2 Model 70-A21 in standard benchmark tests.

The System 325 is available with 5.25-inch or 3.5-inch diskette drives, and with hard disk drives from 150 to 610 megabytes. Two megabytes of random-access memory is standard, but the motherboard can accommodate up to 16 megabytes. VGA monochrome, color and color-plus monitors are available. Prices start at C\$11,399.

Other Dell models are also now available in Canada. Dell plans to begin an extensive advertising campaign here by the end of September. One of the company's selling points is a one-year on-site service contract included in the purchase price. Dell will provide its own service in the Toronto area; the rest of the country will be served by Honeywell Bull under a service contract.

US Retailer Businessland Targets Canadian Market

MARKHAM, Ont. (NB) — Businessland Canada Ltd., a wholly owned subsidiary of the U.S. dealer chain Businessland Inc., has bought the microcomputer sales operation of Anderson-Jacobson Canada Ltd. Because Anderson-Jacobson was an authorized IBM dealer, this paves the way for Businessland to get IBM authorization here. Bob Henderson, vice-president and general manager of the Toronto-based operation, explained to NEWSBYTES CANADA that IBM Canada has all the dealers it wants at present, so in order to get authorization, his firm needed to acquire an existing dealer. This still doesn't guarantee authorization, but in view of Businessland's status in the U.S., IBM's approval is probably a mere formality.

Unlike its American parent, Businessland Canada plans no storefront operations. It will rely entirely on its sales force, Henderson said, and he added that the U.S. parent is also moving toward that approach. Businessland Canada plans to expand across Canada as opportunities appear, probably through more acquisitions, Henderson said.

ATI Exports Stop at U.S. Customs

TORONTO (NB) — Two years ago, ATI Technologies Inc. had four employees. Today it has 85, and the manufacturer of personal computer video boards just moved into new 33,000-square-foot facilities. Bob Arthur, director of marketing for ATI, said the company has 85 per cent of the Canadian market for PC video cards. And only 20 per cent of its total sales are in Canada.

Arthur is worried, however, about shipments to the U.S. Earlier this year, a shipment of ATI cards was seized by U.S. customs authorities at Buffalo, N.Y. The reason given was concern that some chips used in the cards might violate IBM copyrights. Finally IBM inspected the cards, said they were okay, and the shipment proceeded. But what really bothers Arthur is that the Canadian government was able to do nothing about the problem. They were "absolutely and pathetically useless," he told NEWSBYTES CANADA. And he added that if the federal government can't protect Canadian manufacturers any better than that, a free trade agreement with the U.S. is not a good idea.

LANPAR TECHNOLOGIES Markham, Ont., is laying off 47 people and closing the terminal-making plant of its subsidiary Northern Technologies Inc. for a month. The latest layoffs bring the total staff cuts since June to 115, leaving 270 people at Lanpar and Northern. Lanpar makes personal computers and distributes computer products.

Changing Times - Evans Top 100

TORONTO (NB) — There are lots of changes in the ranking of Canada's Top 100 computer companies recently published by Evans Research Corp. of Toronto. Unisys Canada, on the list for the first time since the Burroughs-Sperry merger, took third place after IBM and DEC, pushing Computer Innovations Distribution Inc. into fourth, where Burroughs Memorex was last year. Crowntek Inc., sold in pieces over the past few months, fell from seventh to 17th and will be gone entirely next year. Apple Canada made it into the top ten for the first time, placing ninth.

SHL Systemhouse Ltd. also broke into the top ten, placing tenth. Evans Research noted that if all the holdings of the Kinburn Group, which owns Computer Innovations, Systemhouse and other high-tech companies, were taken as one company, Kinburn would be a strong number three in the rankings.

The best growth was recorded by ATI Technologies Inc. of Toronto, maker of graphics cards, internal modems and peripherals, whose revenues soared 306 per cent. Compaq Canada did quite well, moving up from 39th to 22nd in the rankings and placing fifth in revenue growth.

The top 10 personal computer and office automation companies in Canada, according to Evans, are Apple Canada, Philips Informa-

tion Systems Ltd., Olivetti Canada Ltd., Xerox Canada Inc., Radio Shack Canada, Compaq Canada, Commodore Business Machines, Zenith Data Systems, International Semi-Tech Microelectronics, and Meridian Technologies.

The full Evans report, "The Top Computer Companies in Canada," covers 250 companies and costs \$2,500. An abbreviated version listing the revenues of the top 100 companies is available for \$100 as part of Evans' monthly EDP In-Depth Reports series.

CD-ROM

MICROSOFT, Redmond, Wa., has released a 20,000 page, searchable CD-ROM disk containing the Microsoft Programmer's Library. The disk also includes 1,200 sample programs. Available through software and hardware stores, the Microsoft Programmer's Library costs \$395.

CD-ROM Extended Architecture

SONY and Philips in Holland, with the assistance of Microsoft in the U.S., have signed an agreement to develop CD-ROM extended architecture (CD-ROM XA) format. The new format enables CD-ROM software to use data such as characters, pictures, and sound on CD Interactive Media (CD-I) systems and general-purpose personal computers. Sony and Philips promise to release the draft spec by year's end and the final spec next year.

CHIPS

Soft on Japan? Not George Bush! WASHINGTON (NB) — Although Japan has asked for relaxation of the \$165 million in trade sanctions that remain as part of U.S. chip-dumping penalties imposed last year, the request isn't likely to be granted. A State Department source told NEWSBYTES that the timing of the request—the middle of a very tight U.S. presidential race—isn't good for Japanese interests. The official noted that it was the Republican Reagan Administration which imposed the penalties. "Lifting the sanctions would give the Democrats an opportunity to bash the Republicans for being soft on Japan, costing U.S. jobs," the official said. "That charge may not hold water substantively, but it works politically. The White House isn't going to do anything that might hurt [Republican Presidential Nominee] George Bush." Wide-ranging trade talks have been going on between Japan and the U.S. for some time, most recently in Hawaii. The U.S. imposed \$330 million in sanctions against Japan in April 1987, but dropped \$135 million of the penalties two months later. The sanctions have been a sore spot in U.S.-Japan relations ever since.

More 1M DRAMs From NEC

TOKYO (NB) — NEC has launched an aggressive production schedule for one megabit DRAM chips, aiming to manufacture 12 million 1M DRAMs a month by 1990, an amount which equals its previous peak production of 256K DRAM chips.

To meet this goal, NEC plans to introduce new chip production lines in Kansai and Yamagata NEC, and present production of Kyushu and Yamaguchi NEC will be increased to 5 million from 3 million a month.

Meanwhile, NEC also intends to expand 1M DRAM production overseas; NEC Semiconductor UK will increase its present production of 500,000 units per month, and NEC Singapore will start production early next year.

DRAM Shortage Easing

SAN JOSE, Ca. (NB) — Wyse Technology has become the first computer maker to drop prices of its PCs because the price of DRAM chips has stabilized. Effective immediately, the WYSEpc 286 single drive machine is reduced from \$2,899 to \$2,699, and the 40 megabyte hard disk model is reduced from \$3,959 to \$3,759. The price of the 8 MHz IBM-compatible WYSEpc single drive model drops from \$1,899 to \$1,799 and the 20 MB hard disk model is reduced from \$2,359 to \$2,259.

Wyse's Steve Holtzman, VP of marketing, says his firm has been able to obtain stable contract pricing and delivery commitments for DRAM chips, hence the price reductions. For the past six months, this hasn't been the case; Wyse has been forced to buy its 256K DRAMs on the spot market where prices were unstable, to say the least.

But there's another factor to Wyse's price reductions. The firm is designing its own VLSI implementation of 80286-based systems. Like IBM and Compaq, Wyse is one of the few PC makers to have designed its own chip set. Custom circuitry should enable Wyse to make its PCs cheaper than it does now.

Meanwhile, Toshiba...

TOSHIBA will reduce production of 1M DRAMs in its U.S. subsidiary and will make up for the loss through purchase of the same chips from Motorola. Toshiba is confident that Motorola can supply the necessary 1 megabit DRAM chips since Toshiba and Motorola have cooperated in the construction of Motorola's Phoenix, Arizona 1M DRAM production line.

COMMODORE

Commodore Raises Cash

WEST CHESTER, Pa. (NB) — Commodore International Ltd. has lined up \$550 million in loans from Prudential Insurance and Integrated Resources Life Insurance. The senior notes, at 10.75 percent, are due in 1992 through 1995. Commodore, once on the financial deathbed but now recovering nicely, will use half of the \$50 million to pay off \$25 million the company owes to syndicated bank groups in the U.S., Germany, the United Kingdom, and Hong Kong. Commodore lined up that credit when it was in trouble and will now buy it out with the cheaper credit from the insurance companies. Commodore will use the rest of the new loan for general corporate purposes, the company says.

DATABASE

DBase IV by Sept. 30?

LOS ANGELES (NB) — Ashton-Tate's Chairman is holding fast to his promise to ship dBase IV by September 30. He reaffirmed the launch date to the audience at last week's developers' conference. Easer said final quality checks are complete and the product is ready to go out the door.

Meanwhile, Ashton-Tate also introduced two new dBase development products — dBase Professional Compiler and Step IVward. The dBase Professional Compiler is slated for release in the first quarter of 1989 and Step IVward, a dialect code converter which translates code from Clipper, FoxBase and Quicksilver, is expected to ship this fall.

What many thought would be equally unlikely is the timely release of dBase IV on September 30. However, that eventuality is virtually assured with the certification last Friday that signaled an end to testing of the final code. According to my inside source, the certification was confirmed by employees checking their company mail.

ASKSAM SYSTEMS, Perry, FL, shipped version 4.1 of its askSAM information manager for the PC. The new version includes a dialog facility which lets users predefine variables which appear as prompts when the program is running.

DESKTOP PUBLISHING AND GRAPHICS

SEYBOLD REPORT

Seybold Highlights DTP, Graphics

SANTA CLARA, Ca. (NB) — The Seybold Desktop Publishing Conference kicks off September 14 and runs through the 17th at the Santa Clara Convention Center. This year's event is drawing Apple's heavy artillery: Alan Kay, Apple fellow; Larry Tesler, vice president advanced technology; Bill Atkinson, HyperCard designer; and Tyler Poppel, product marketing manager for multimedia applications.

Apple will dominate the show with its numerous seminars and third-party exhibits, including demonstrations by high-end desktop publishers. "Future Macintosh Technology" is the topic to be presented by two representatives of the Associated Press. "Macintosh in Music Publishing" will be discussed by Oscar Winner Ken Gruberman.

DTP: Promise or Confusion?

SANTA CLARA, Ca. (NB) — The biggest-ever Seybold Conference on Desktop Publishing drew a stellar array of industry executives and some 12,000 attendees, bent on seeing first-hand the latest developments in this exploding field. But the speakers who addressed the crowd gave a wide variety of opinions, both optimistic and pessimistic, about the industry's current direction.

The most controversial remarks came from Adobe Systems' John Warnock, chief executive and president. "The current state of affairs is just awful," he said, referring to the variety of operating systems and the industry's failure to standardize. "I think it's time we look at the industry as a whole and ask where we're going. We need to develop standards, just like the recording industry."

Stewart Alsop, publisher of PC LETTER, viewed

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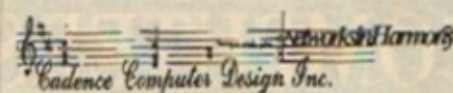
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cadence \kad-'nē: n: the measure or beat of a rhythmic flow (as of sound or motion)

cadenza \ka-'den-zā: n: a brilliant sometimes improvised passage toward the close of a musical composition

computer \kem-'pyut-er: n: an automatic electronic machine for calculating

de sign \di-'zīn: vb 1: to conceive and plan out in the mind. 2: INTEND

3: to devise for a specific function or end. 4: to make a pattern or sketch of. 5: to conceive and draw the plans for — design'er n

har mo ny \har-'mō-nē: n 1: musical agreement of sounds; esp: the combination of tones into chords and progressions of chords. 2: a pleasing arrangement of parts. 3: internal calm

Cadence Computer Design \kad-'ns kem-'pyut-er di-'zīn: n: 1: the most qualified Networking company in Western Canada. 2: the company that other computer companies call in when they get in too deep on a LAN installation. 3: the Vancouver based computer company on the leading edge of networking technology with an international reputation. 4: the only 3COM Network specialists in the West. 5: the only company in the world who are both 3COM Development Associates and ACCESS (ACCPAC) Specialty Consultants.

Networks in Harmony \net-'werks in har-'mō-'nē: adj: 1: Cadence Computer Design. 2: only Cadence Computer Design.

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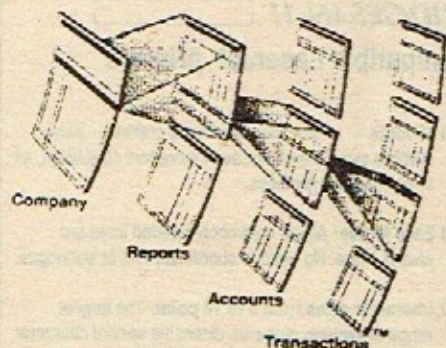
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the current state of the industry in a slightly more optimistic manner, saying that "chaos and transition are words that go together."

As for the future, Alan Kay, Apple fellow, told the crowd that changes in the desktop publishing software field will soon lead to "software agents" which will "learn" a user's preferences and adjust accordingly.

While no philosophical consensus could be found, the event was packed with plenty of new product announcements. Among them:

ADOBE SYSTEMS introduced a PC version of Adobe Illustrator. The PostScript language-based drawing package, called Windows Version, will retail for US\$695 when shipped later this year. Adobe is also offering a single hard drive which includes all Adobe typefaces. Adobe Font Folio, slated for shipments in November, will sell for \$9,600. Adobe also announced 13 new typeface packages.

ALDUS CORPORATION showed a major upgrade of Freehand. Freehand 2.0 has improved text-handling, color support, the ability to erase up to 100 previous actions through an Undo and Redo function, and an autotrace function. Current Freehand owners can upgrade for US\$85. New, the product costs \$495. The product is expected to ship by year's end.

CRICKET SOFTWARE announced Cricket Presents...2.0, also due out by year's end. The upgrade, free to owners of the current version, has more word processing tools and the ability to import more files than the original.

LETASET unveiled a version of Ready, Set, Go! which is used with a color pre-press system from Crosfield Electronics of England.

ODESTA introduced Odesta Document Management Systems which allows users to track changes made to a document when it is being edited by a group of people on a network.

QUARK showed QuarkStyle, a set of templates created for those who don't want to do it all from scratch. The templates have their own typeface and type fonts, columns, logo style, etc. There are 70 layout designs from which you can choose. Available in October for US\$100.

The Last Seybold DTP Conference
SANTA CLARA, Ca (NB) — The Seybold Desktop Publishing Conference has just ended for all time. That's it. There's no more. Never. Next year the conference from Seybold will be the Computer Publishing Conference.

As for this year, the top party was the "Publish!" bash featuring Pride and Joy. What a band. "PC Magazine" was so desperate to get someone to show up at their museum soiree that they ended up giving their usually-exclusive invitations away at the door to anyone who was interested. Apparently, not many were—despite a sit-down dinner. Just shows to go ya, song overpowers wine. So far, no one has really tested the other leg of the triangle.

Higher End PC Drawing Packages
The hottest software at the show was probably a trio of packages from Adobe, Computer Support Corporation and Digital Research. The respective packages, Illustrator for the PC, Arts and Letters Editor and Art Line, will be going head to head for the PC DTP dollar within a couple of months. Adobe plans to ship around November while Digital expects to have its entry in the market a month from now. Arts and Letters should be out even sooner. All three products will offer more publishing power to the PC user than ever before. If it can just get some gray scales on its page-layout screens, the PC may yet start to give the MAC fits on its home turf.

Display Postscript for the Mac?
Clinton Nagy, national sales manager for Adobe Systems, dropped a minor bombshell here when Johnathan Seybold asked the question, "Will there be Display Postscript for the Macintosh whether Apple supports it or not?" The answer, "yes," was quickly followed by, "I wish I hadn't said that." So, now we know, Clinton—and so, presumably, does Apple.

An Easy Trail from Windows to OS/2
(NB) — There's nothing better than being at the right place at the right time. Luckily, I was on the shuttle to the Marriott along with Micrografx' Chief Executive Paul Grayson, just when he decided to reveal one of the company's most closely guarded secrets. Get ready for an emulation package that will allow any Microsoft Windows application to run under the OS/2 Presentation Manager without modification. IBM should give these guys a prize. Something like this could benefit the whole MCA strategy.

Take a Bow, Digital!
My favorite surprise was a forthcoming product

from Digital Research. It's been a long time since DR's had one on the charts with a bullet. But the company's belated emphasis on desktop publishing (let's hope turning down Ventura Publisher was the last of the major blunders) may be about to pay off.

Art Line is a DTP support package that allows the user to create really spectacular effects. Graphics (including text from a variety of fonts which can be quickly turned into graphic objects) can be created or enhanced with a host of special tools. There is virtually no limit to the changes that can be made to Bezier outlines with Art Line. Individual characters or character groups can be rotated to any angle to produce circular or spiraling text with ease. The resulting headlines and graphic elements can distinguish a document lightyears beyond anything now possible in a DTP package. Output is provided in EPSF and GEM formats. TIFF and PCX files are also supported.

Digital took a hard rap for its hubris back when CP/M placed it in an all-powerful and seemingly perpetual position of power. After the downfall, the industry was not quick to forgive. Products like GEM have received fair criticism but have often failed to get commensurate credit for their strengths. I think Digital's been in the penalty box long enough and hope this is the hit that turns things back around for them.

IBM Buys IRIS 3D Graphics Cards
MOUNTAIN VIEW, Ca. (NB) — Silicon Graphics has announced that IBM has decided to endorse its 3D graphics technology called IRIS. Under the terms of the agreement, IBM will purchase IRIS graphics cards and will license the Silicon Graphics' IRIS Graphics Library, for use by IBM customers in IBM products. "The agreement reinforces our long-time conviction that three dimensional graphics will become a mainstream technology in the computer industry," says Edward McCracken, president and CEO of Silicon Graphics.

Silicon Graphics, which would not put a price on the deal, has the largest base of 3D applications in the world and the company expects that most of the nearly 300 software titles available through its Geometry Partners Program will also be available to IBM customers.

Atari Port to PC
(NB) — If you're a PC user, MiGraph wants to be YourGraph. The company has plans to convert its Atari applications and clip art libraries to the PC in the near future. The ScanArt library of 100 images was made available in June in the GEM IMG format. Now, the DrawArt library of 150 GEM files is to be shipped this week. In addition, the Touch-Up image-design tool for producing bit-mapped graphics on the Atari ST is to be released for the PC this January.

PC's Gain Not an Atari Loss
(NB) — Soft Logik Publisher is just about ready for the ST. The company is modest in its claims: just a combination of Ventura Publisher, Page Maker and Quark Express. They do four-color separations, encapsulated PostScript files, fancy kerning and three-axis text rotation of text, all at very high resolution. In two weeks, Atari owners can judge for themselves. Versions are planned for the Amiga and Mac in about one and six months respectively.

XEROX Desktop Software Business San Diego, Ca., is expected to introduce a version of Ventura Publisher for the Macintosh by year's end. It's said to be in development by Ventura Software of Salinas, Ca.

ZENOGRAPHICS, Irvine, Ca., will unveil a low-end graphics package for the Macintosh — a version of its Pixie package for the PC — by October 1. The program's claim to fame will be its massive array of 16 million colors compared to 256 on the PC. The cost is expected to be US\$295.

LINOTYPE CO., Hauppauge, N.Y., has introduced a new PostScript typesetter to replace its popular Linotronic 100. The Linotronic 200 will offer 635, 846, 1,270, and 1,693 dot per inch resolution, while the 100 went only to 1,270 dpi. The price of the new machine is US\$34,950 with an 80-megabyte hard disk.

GENERAL INTEREST

HEWLETT-PACKARD, Palo Alto, Ca., has been accused of 80 waste law violations by California's Department of Health Services and the state Attorney General, all of which carry fines of up to US\$25,000 per day. HP is accused of mislabeling and failing to keep track of hazardous waste used in manufacturing at its plant at 1501 Page Mill Road. HP has not commented, saying it has yet to receive a copy of the complaint.



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Doctor Fingers "High-Tech Lung"

BOSTON (NB) — A researcher at the Lahey Clinic Medical Center says a two-year study has identified a respiratory malady that afflicts primarily workers involved in computer manufacturing and electrical engineering. Dr. Joseph Andrews calls it "high-tech lung." Andrews said he had studied the disease in 15 patients from around New England. Andrews says high-tech lung is the result of inhaling chemical fumes and dusts, such as the chemicals used for fabricating and electroplating chips and the chemicals used in soldering circuit boards. "It's something that is really fairly new," said the pulmonary specialist. "I had thought the high-tech industry, as opposed to steel or coal, was a clean industry." Massachusetts High Tech Council spokesman Chris Anderson said he had not seen the study but questioned whether it is broad enough to make industry-wide conclusions.

Programs Go Platinum at SPA

WASHINGTON (NB) — The Software Publishers Association has awarded Platinum Labels to 17 programs that have sold more than 250,000 copies. The 17 were produced by six different companies. We have the envelope. And the winners are:

* Accolade for Hardball and Test Drive (written in Vancouver by Distinctive Software) * Broderbund for Where in the World is Carmen Sandiego, Print Shop Companion, and Load Runner. * Data East USA for Karate Champ, Ring King and Karnov * Electronic Arts for Music Construction Set, Advanced Flight Trainer, Pinball Construction Set and Skyfox. * Epyx for Summer Games I, Winter Games, California Games and Fast Load. * Microprose for Gunship.

THE POPE is set to read electronic mail through a new electronic mail system which will be installed at the Vatican by Italcable.

First Glass Magnetic Disk Due

TOKYO (NB) — Tokyo-based optical glass maker Hoya has realized the world's first magnetic disk with glass substratum. It has a memory capacity 4 to 5 times larger than aluminum substratum. The price of the 3.5-inch disk is US\$20 and the 5.25-inch is \$25, prices which are about 20% higher than aluminum substratum ones. However, the production cost which provides the same memory capacity will be reduced by one-third to half.

Hoya will produce the glass substratum in Japan. After that, its U.S. subsidiary, Hoya Electronics in San Jose, will combine it with magnetic recording film and supply it to device makers.

LOUIS HARRIS, New York, released a survey showing 78% of U.S. office workers now have PCs on their desks, with data entry (71%), access to online databases (69%) and word processing (56%) the most popular applications, followed by spreadsheets (45%), statistical analysis (43%), order entry (31%), and graphics (27%).

Beware The Computer Desk!

ATLANTA (NB) — Georgia Tech researchers have found that man-made furnishings emit into the air as many as 60 different chemicals, which can cause headaches, sore throats and other problems. Man-made fiberboard, used in many computer desks as well as partitions and shelves, is one of the worst culprits. The glue holding it together contains formaldehyde. Inhaling the vapors from such a desk can make you sick, especially if you have allergies already. As Dr. Charlene Bayer, a senior research scientist at Tech said, "Generally, indoor air is significantly dirtier than outside air. You are in a box. Everything in it gives off pollutants, and they build up." Bayer's solution is simple. Open a window.

Too Few School Computers

WASHINGTON (AP) — "Today's classrooms typically resemble their ancestors of 50 years ago more closely than operating rooms or business offices resemble their 1938 versions," says a report on computers in school by the congressional Office of Technology Assessment. OTA found that U.S. schools have only one computer for every 30 students. Pupils with access to computers get to use them an average of only an hour per week. Schools have spent US\$2 billion on hardware over the past decade, but it will cost \$4 billion more to reduce the student-computer ratio to 3-1. "The vast majority of schools still do not have enough [computers] to make the computer a central element of instruction."

JAPAN

Nippon Mining Buys Gould ROLLING MEADOWS, IL (NB) — Gould Inc., a minicomputer and chip maker which also does Defense contracting through its NavCom subsidi-

ary, agreed to sell to Nippon Mining Co. for US\$1.1 billion August 30. Gould, originally a battery maker, tried and failed under former Chairman William Yliskaker to become a giant electronics and defense company. It had been selling units and suffering losses over the last few years. "The Wall Street Journal" got this reaction from Smith Barney analyst H.P. Smith: "Hallelujah! I've been following this company for 10 years, and it's been straight down the tubes in terms of stock price." A Nippon Mining tender offer for Gould stock began Friday, September 2.

Nippon Mining plans to sell NavCom — the Defense Department refuses to do business with foreign contractors. But it will keep the business that makes copper foil for circuit boards. Still, the deal is subject to review by President Reagan under the Trade Bill signed a few weeks ago. (Separately, Gould sold its anti-submarine warfare unit on August 29 to Martin Marietta for \$117 million.)

ADP With No Operating System

TOKYO (NB) — Casio Computer's Automatic Data Processing System is giving rise to panic in the industry. Competing computer makers complain that they have too little information about the system and that it is quite hard to get the details. NEC's spokesman said to reporters, "We don't know what the system is all about, but we will let our engineers look into the manual or spec as soon as it is released." The specifications, says Casio, are to be released by year's end. Other companies, including IBM Japan, had no comment.

Casio Computer says it has developed a revolutionary new computer process that does not require an operating system. Called the Automatic Data Processing System (ADPS), actual data operates the computer without operating systems or application programs.

Merely from input of various data from a keyboard, ADPS can construct a database and, at the same time, output the information according to a predetermined configuration. It is the hardware alone which processes the data, not software. Data is the entire content of the system's memory and data is replaced whenever new information is entered via the keyboard.

Casio has not revealed more details on the machine, but promises to announce an ADPS office computer this October.

LAN'S

Ultra: 1 Billion Bits/Second

SAN JOSE (NB) — Former Rolm executives believe they've got a product which will revolutionize the business of local area networks, and they'll put it in front of the public Tuesday, September 20. The product called Ultra is said to be capable of transmitting one billion bits per second, or the contents of an entire encyclopedia in a few seconds. Ultra officials say this speed is 100 times faster than Ethernet.

Ken Oshman, chairman of Ultra Network Technologies, says several mini supercomputer makers will announce their endorsement of the product, including Mips Computer Systems, Alliant Computers, Stellar Computers, and Convex Computer Corporation.

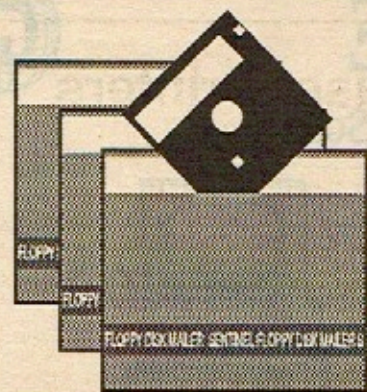
Novell's Trade Show Doubles Size

DALLAS (NB) — Continuing a trend of large vendors sponsoring their own trade shows, Novell will take over the Dallas Infomart for its NetWorld '88 show September 27-29. A total of 200 exhibitors are slated to attend, and about 12,000 decision-makers are expected to view them. Software vendors like WordPerfect will show their LAN-compatible products, computer makers like Compaq will show how easy it is to use their PCs as terminals, and micro-mainframe vendors like DCA will show their Novell-compatible connections. The whole show will be wired with a 400-node Novell NetWare Local Area Network. And that's not all. Novell will host its first NetWorld in Europe as part of the Hanover Fair March 8-15, 1989.

MACINTOSH

New Mac IIx with 68030

MARKHAM, Ont. — Apple Canada Inc., on Sept. 19, introduced a new Mac II computer with the faster 68030 processor and its 68882 math coprocessor. The Macintosh IIx is the first Macintosh computer to provide a 3.5 inch floppy disk drive that can read and write to MS-DOS and Apple formats in addition to the regular Macintosh formats. With the introduction of the Mac IIx, Apple has extended the functionality of the Macintosh II line in two areas — performance and multi-



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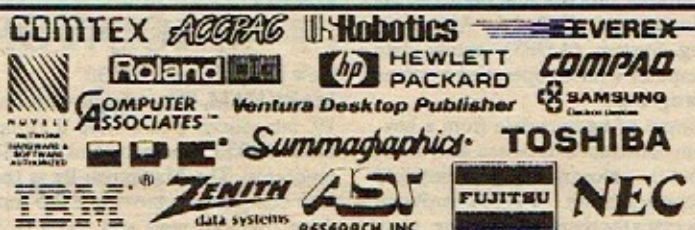
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vendor integration.

The combination of the 68030 microprocessor and 68882 co-processor running at 16Mhz provides users with an additional 10-15% performance improvement over the Macintosh II. In addition, Apple claims that virtually all Macintosh II-compatible software runs without modification on the Macintosh IIx. The Macintosh IIx gains a new level of multi-vendor co-existence by incorporating Apple's new 1.44 MB floppy disk drive (FDHG - Floppy Drive High Density). The drive's capability to read and write MS-DOS, OS/2 and ProDOS files in conjunction with the Apple File Exchange Utility gives Mac IIx users a convenient means of exchanging information between different computers.

The price, you ask? A 4MB/80MB (RAM/hard disk) Mac IIx system, including mouse, system software (with Apple File Exchange), Hypercard and all documentation has a suggested retail price of \$13,360. A 4MB/FDHD system has a suggested retail list of \$11,079. Takers, anyone?

The introduction of the new machine is not expected to be the object of much fanfare, as Apple views the unit, Apple's most powerful to date, as an upgrade to its current Macintosh II. While Apple CEO John Sculley stressed earlier this year that his firm would not be introducing any new computers in 1988, this machine could be seen as a contradiction to that statement. But an Apple spokeswoman stresses that Sculley was referring to an entirely new machine with a different footprint.

The introduction could be timed to steal some thunder from Apple founder Steve Jobs' workstation offering from his firm NeXT, Inc. but given the amount of international interest in the machine, chances are it won't do that at all.

...And It's Only One of Eight New Macs!

SAN FRANCISCO (NB) — MACWEEK magazine reports that Apple has a string of new Macintoshes slated for introductions through the second quarter of 1990. Quoting a confidential, internal Apple report, the magazine says the line-up includes a low-end, K-12 Macintosh, a laptop, and a 68030-based SE. The top of the line Macintosh, code-named Tower, will not appear until the fourth quarter of '89, nor will the K-12 model, according to the magazine. Yet another Macintosh is code-named Four Square, said to be equipped with custom I/O chips, a 20 MHz 68030, and enhanced multitasking support.

The magazine says it used as the source of this information a confidential memo circulated this past spring, and that current sources indicate the release dates on the new Macintoshes are optimistic. Apple refuses to comment on the reports.

Apple Hikes Prices...

MARKHAM, Ont. (NB) — Apple Canada Inc. has increased suggested retail prices for the latest Macintosh models and LaserWriter printer memory. The increases were blamed on the shortage of dynamic random-access memory chips.

The price of a Macintosh SE with dual 800K drives goes from C\$4,795 to \$5,150. The price of a Macintosh II with 40-MB hard disk and a megabyte of RAM rises from \$9,150 to \$9,829. A one-megabyte memory expansion for the LaserWriter, formerly \$572, will rise to \$770, and a four-megabyte expansion goes from \$2,876 to \$3,700. All the increases take effect October 1.

The only products which do not have a price increase are the Macintosh Plus, the Apple IIE, and the low-end LaserWriter IISC.

SUPERMAC TECHNOLOGY, Mountain View, Ca., has returned to the hands of its founder Steven Edelman, in a US\$8.5 million leveraged buyout from Scientific Micro Systems.

Expressly Yours, Mac, From MCI WASHINGTON (NB) — MCI Mail has got together with Apple Computer and Dow Jones to create Desktop Express, designed to do for Macintosh users what Lotus Express does for the PC world — allow exchange of formatted text, spreadsheets, graphics, or desktop-published documents over MCI Mail. MCI is offering the program to subscribers of MCI Mail for US\$99. The retail price is \$149. PC users with Lotus Express will be able to send Lotus spreadsheets, with graphics, to Excell users on a Mac with Desktop Express.

...Big Apple Shakeup

CUPERTINO, Ca. (NB) — Like a giant cell subdividing, Apple Computer has split into four distinct operating divisions to accommodate its massive and rapid growth. The new divisions are Apple Products, Apple Education and Apple Pacific, Apple Europe, and Apple USA. The pearl in this oyster is the Apple Products group which Senior VP of Research, Development, and Prod-

uct Marketing Jean-Louis Gasse will now head. Delbert Yocam, formerly chief operating officer, becomes president of the Education and Pacific group. Michael Spindler is president of Apple Europe and Allan Loren heads up Apple USA.

Apple's rapid growth — sales were US\$993.1 million in its last quarter ending June 30 compared to \$637.1 million one year ago — has also prompted more hiring. CEO John Sculley, who's supposed to be on sabbatical, reportedly showed up at a company meeting last week to announce that 2,200 more people will be hired at Apple during this fiscal year and another 3,000 will be on the payroll in 1990. Currently Apple employs some 9,400 workers.

NEXT COMPUTERS

NeXT News October 12

SAN FRANCISCO (NB) — October 12 is the date that Steve Jobs' NeXT is scheduled to unveil its long-awaited workstation. Jobs, who spoke at the Seybold conference about the virtues of Unix, refused to divulge details of the machine. But others were not as reticent in discussing it. Said conference sponsor Jonathan Seybold, "the hype is warranted. It'll be one of the major computers of the year," he said, claiming he has seen it, and adding that it's a "milestone product."

Initial press reports indicate the workstation will have all the bells and whistles a user could want, including Unix and Display PostScript, as well as proprietary technology for digital sound and graphics, a built-in high-speed fax modem, and an erasable compact disk player for data storage. Speculation has it the 68030-based machine, physically a sleek black "box," could be priced as high as US\$6,000 per unit. It is also expected to be bundled with Mathematica, a new software package considered a breakthrough in the handling of complex mathematical problems.

Meanwhile, THE NEW YORK TIMES reports that Jobs has been paid an estimated \$1-2 million to develop a version of his proprietary interface for Big Blue. The newspaper reports that IBM will use the interface for machines which run the Unix operating system.

And finally, Apple has promised not to raise its legal hackles over Jobs' new machine. Apple reports it inspected the workstation in January, in accordance with an agreement reached with Jobs when he left Apple three years ago, and found that it did not violate any Apple copyrights or steal any proprietary technology.

The announcement ends months of speculation about the introduction of the NeXT workstation, expected to be in direct competition with offerings from Apple and Sun, among others. The sleek, black desktop workstation is said to offer spectacular sound and graphics capabilities and will run a version of Unix, according to those who have seen it.

OS/2-PS/2

DELL COMPUTER, Austin, announced a further delay in shipping its PS/2 compatibles. This time the claim is insufficient demand.

An AT in PS/2 Clothing?

ARMONK, N.Y. (NB) — IBM has officially denied that it plans to reintroduce the popular PC AT, in the form of a new addition to the PS/2 line of personal computers. The new PS/2, as widely reported here and elsewhere, would use the Intel 80286 processor that is featured on the AT, and the AT bus, and would be called the PS/2 Model 35. "IBM is definitely committed to building on the PS/2 platform," says Big Blue spokesman Jim Monahan. "If anyone expects IBM to introduce the PC AT, they are sadly mistaken."

Nevertheless, PC WEEK, which first broke the story, insists it has the goods on IBM. "IBM can call the new machine whatever it wishes," editorialized PC WEEK, "but from our perspective, a bus that accepts and uses AT expansion cards is an AT bus, no matter what size box you stuff it into or at what angle you orient the expansion slots....No matter how loudly Big Blue doth protest, no incremental improvements in the design of the bus will change the machine's basic nature: a return to the original PC AT architecture." Quack.

In other news from Big Blue, the company has junked its personal computer dealer incentive plan announced January 1 and expected to be in place through the rest of the year. The program that gave dealers credits and bonuses for taking inventory of PS/2s will officially end on September 30. The IBM program, called the Revenue Incentive Program, or RIP, succeeded in driving down the market price of PS/2 computers, as dealers applied the money they got from IBM into lowered street prices for the slow-selling computers. Another

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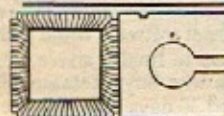
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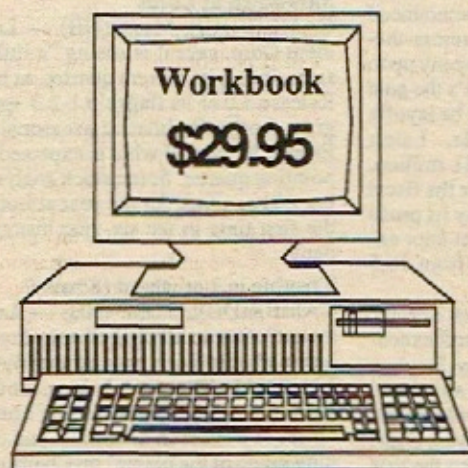
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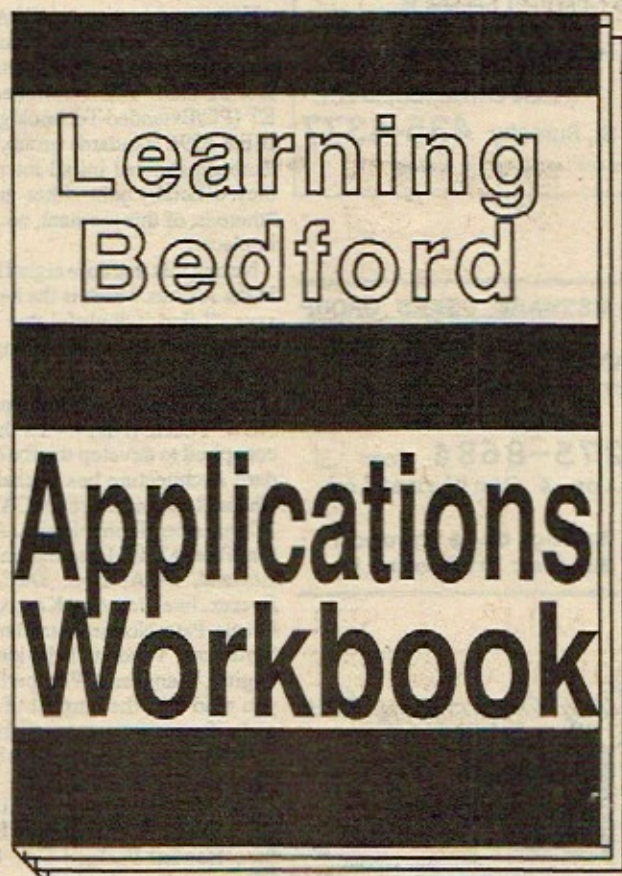
D. Purbhoo is a teacher of accounting and data processing at Eastern High School of Commerce. L. Borel is the Director of Business at Lester B. Pearson Collegiate Institute.



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IRS Bugged by PS/2's

WASHINGTON (NB) — More than half of the IBM PS/2 personal computers installed in the finance division at the Internal Revenue Service have failed, reports GOVERNMENT COMPUTER NEWS. The paper says that seven of 13 Model 30s had hard disk or video failures. IBM blames the contractor who sold the machines to the tax collectors, and all the machines were fixed or replaced. But the sharp pencils in the finance division weren't confident of the machines, so they shipped them off to another IRS division and purchased ATs from AST Research as replacements.

PC NEWS

Revolt of the Clonesters

NEW YORK (NB) — A consortium of rival personal computer makers are expected to challenge International Business Machines Corp.'s new Micro Channel Architecture (MCA) with a new 32-bit data bus that will accept standard AT boards. The clone makers hope to lure buyers away from MCA by offering the same services as MCA, but without the need to buy new plug-in boards.

Onboard the challenge bus so far are Compaq Computer Corp., Tandy Corp., AST Research Inc., Hewlett-Packard, Epson America, NEC Corp., Ing. C. Olivetti & Co., Zenith Data Systems, and Wyse Technology. IBM has been hyping MCA as the key to its new PS/2 line of personal computers, although few products have emerged that use the special features of the board, such as rapid Direct Memory Access (DMA), burst transfers, and automatic configuration. Since the introduction of the new computers, the PS/2 has sold well, but IBM has lost market share in the hot PC industry.

The new bus, to be called the Extended Industry Standard Architecture (EISA), is a profound challenge to IBM's position in the personal computer business. If the group led by Compaq succeeds in establishing EISA as a standard, IBM could lose control of the segment of the industry it has controlled since the introduction of the IBM-PC. Industry observers expect a very tough fight from IBM over the competing buses. It appears that products for EISA are at least several months away, so IBM is likely to try to rush some really powerful devices using MCA to market.

There is also some skepticism in the industry about EISA. Notes Carl Warren, principal engineer of WGL, a testing and analysis firm in Torrance, Calif., "Since the EISA design supposedly offers the features described [for the MCA], Compaq is expected to claim that it is performance comparable to Micro Channel. I find this difficult to believe."

Warren adds that the EISA goes back to 1986 when an industry ad-hoc committee he chaired was formed to standardize the AT bus and extend it to 32-bits. "This committee was known as PC/ET (PC/Extended Technology) and grew into the IEEE P996 standards group," he says. Although Compaq showed initial interest, "at no time did they officially join either group." He adds that "there is, of this moment, no industry consortium in place."

Noting that there are eight IBM patents involved in the AT bus which is the heart of EISA, Warren says, "I find it doubtful that IBM will sit idly by and ignore Compaq impinging on the eight granted patents."

Gang of Nine Bus Virus Spreads

NEW YORK (NB) — To the gang of nine who conspired to develop the Extended Industry Standard Architecture bus to challenge IBM's Micro Channel Architecture (MCA), add a few names: 3Com, Acer Technologies, Adaptec, ALR, Ashton-Tate, AT&T Information Systems, Autodesk, Borland, DCA, Dell, DEC, Digital Research, Everex, Intel, Iomega, Kaypro, Microsoft, Novell, Oracle, Peter Norton, Quadram, Quarterdeck, SCO, Symantec, Tandon, Televideo, Unisys, Western Digital, Wang, and Wordperfect. And by the time you read this, the number of computer hardware and software companies aligned with the rival bus is likely to have grown. This bus is getting a lot of passengers.

The nine originators of EISA (Compaq Computer Corp., AST Research Inc., Epson America Inc., Hewlett-Packard Co., NEC Corp., Ing. C. Olivetti & Co., Tandy Corp., Wyse Technology, and Zenith Data Systems Corp.) are taking a big risk with the new 32-bit bus. They are gambling that IBM won't immediately hit the market with a flurry of add-on boards that really use the MCA bus to the maximum.

The fact that the challengers won't have prod-

ucts out for the new bus until late next year gives IBM a window of opportunity. They also risk that, facing the confusion that the bus war creates, buyers will sit it out until a real winner emerges. Or buyers might just move to Apple and its NuBus. Finally, the clone makers are also gambling that IBM won't fire back with a buckshot load of litigation.

IBM Responds With FUD?

RYE BROOK, N.Y. (NB) — IBM is not taking the assault of the clone makers lying down. Big Blue issued a series of disdainful comments about EISA, some hints at litigation, and a flurry of new hardware and software product announcements, including the long-rumored return to the AT bus for the entry-level PS/2 computers. Said one IBM observer, "IBM is sowing the usual FUD." That's "fear, uncertainty, and doubt," the usual IBM response to outside challengers.

At a press conference held the same time as the clone bus announcement, IBM sniffed that EISA is proof that the steam has run out of the AT bus. So power users can either wait a year for the products that take advantage of the new bus, or opt for MCA. Also, Nicholas Donofrio of IBM's personal computer division reminded a Dow Jones reporter that IBM has patents on technology that might be used in EISA. Just because the clonesters avoided the MCA design "doesn't mean that they don't use our intellectual assets," he said, hinting strongly at litigation.

Also, IBM responded with the new PS/2 Model 30 286, which uses the 80286 processor rather than the 8086 of the original Model 30, and the AT data bus rather than MCA. In typical IBM fashion, it's a rather conservative machine. The processor runs at 10 MHz, and addresses a standard 512 kilobytes of RAM. The machine comes with a 20-megabyte hard drive (80 milliseconds access time) for a suggested retail of US\$2,595 and a machine without the hard drive for \$1,995. IBM also announced RPG II Application Platform and RPG II Application Toolkit, software from the System 36 environment that will allow PS/2 machines with MCA and OS/2 to operate as multiuser systems, with PC-XTs, ATs, and other PS/2 machines as terminals. IBM says the best configuration would be two to four workstations.

Computer Associates 1st to \$1 Billion

CHICAGO (NB) — Ameritech, the midwestern Bell Company, is getting out of the software business. The company announced it sold its Applied Data Research unit to Computer Associates International Inc., Garden City, NY.

This makes CAI the world's first \$1 billion software company. CAI already has earned a reputation as the "Frank Lorenzos" of the software business, ready and eager to slash salaries, perks and incentives to build profits. A few months ago, CAI made a run at Management Science America Inc., an old-style IBM mainframe applications shop in Atlanta which prided itself on building "team spirit" through shared incentives and big salaries until the profits disappeared late last year.

CAI Chairman Charles Wang told "The Wall Street Journal" he may cut up to 20% of ADR's staff to make the new subsidiary profitable. At a time when even Lotus Development is sagging because high-priced management can't get its act together, CAI bears continued watching.

Borland Lays Off Workers

SCOTT'S VALLEY, Ca. (NB) — Borland International, taking steps to cut costs, has announced that 90 workers are being laid off. The across-the-board cuts are expected to save the company up to US\$1 million a month — or at least that's the goal of Borland Chairman Philippe Kahn. The layoffs don't mean the company is in trouble. Latest figures show Borland had sales of \$81 million, more than double the previous year, for the fiscal year ending March 31. But analysts say its profit margins have eroded because it has not kept expenses under control. Profits dropped from 16.5 percent in 1986 to 4 percent last year.

Accompanying the layoff was news that Borland has appointed former Lotus and Microsoft executives to key positions within the company. Stephen Kahn (no relation to Philippe) has been appointed Borland's director of business development. Microsoft's former manager for southwest OEM accounts, Stephen Green, has been given the title of director of business development.

Kaypro Lays Off 10%

SOLANABEACH, Ca. (NB) — Kaypro Corporation has given walking papers to 35 employees, 10 percent of the work force, as a result of sagging sales. The layoffs bring the number of workers to about 310, half what it was in 1984. A company statement blames "slower than anticipated sales in

the past few months due to a variety of market conditions, including seasonal factors and the recent semiconductor shortage."

Things have not been going well for Kaypro for some time. Its latest financial report shows net sales for the last nine months are down by a third from one year ago — US\$58.9 million compared to \$85 million in 1987. The last nine months have also produced a net loss of \$4.4 million.

Regarding the PS/2 clone Kaypro's chairman bragged about introducing earlier this year, it's still on the calendar for an introduction this month, but whether it will in fact be released is a matter of market demand, according to John Hentrich, the company's general counsel.

For IBM, It's Goodbye M-A-S-H!

NEW YORK (NB) — Lord Geller, the advertising agency that put Charlie Chaplin and the crew from M-A-S-H to work hawking International Business Machines computers, has been fired by IBM. Lord Geller has lost a competition for the IBM account, which the firm had held since 1979, to Lintas: USA and Wells, Rich Greene, both of New York.

Lintas, a division of the Interpublic Group of Companies, will handle IBM's PS/2 personal computer advertising. IBM is said to spend more than US\$100 million a year on U.S. advertising.

Big Blue decided in June to review its advertising program after six key executives of Lord Geller, including Chairman Richard Lord and President Arthur Einstein, left the company in March complaining of the management style of WPP Group PLC, the British firm that owns Lord Geller. The defectors took a number of Lord Geller employees with them to form a new firm, Lord Einstein. Lord Einstein, Lord Geller, D'Arcy Masius Benton & Bowles, and Grey Advertising were the unsuccessful competitors in the competition for the IBM account.

Free Upgrade for 1-2-3, Anyone?

CAMBRIDGE, Mass. (NB) — Buy Release 2.01 of 1-2-3 and gets long-awaited Release 3.0 for free. That's the latest offer from Lotus Development Corp., designed to keep buyer interest peaked for its dominant spreadsheet software while waiting for the newest release to finally arrive. The offer is good for anyone who buys Release 2.01 between September 6 and 30 days after Release 3 ships. Lotus says it "intends" to roll out Release 3 in the fourth quarter of 1988.

The suggested retail price for Release 2.01 is US\$495. Registered users of Release 1A will be able to upgrade to Release 3 for \$200 and existing users of Release 2.01 will be able to upgrade for \$150.

Oh No, Mr. Jim! Not Late Again!

CAMBRIDGE, Mass. (NB) — Lotus Development Corp. is beginning to waffle on the timetable for Release 3.0 of 1-2-3. Lotus now says the oft-delayed update to its popular spreadsheet program will ship late in the fourth quarter of this year. A Lotus spokesman told reporters that "I wouldn't expect the product to ship early in the fourth quarter, but we're working hard toward achieving our fourth-quarter shipment goal." Veteran Lotus gazers note that Lotus is saying it hopes to debut the new product in the fourth quarter, not that it will make it. "I infer from what the company's saying that they're beginning to get nervous" about being able to deliver on schedule, a securities analyst told the WALL STREET JOURNAL.

Slowdown at Lotus

CAMBRIDGE, Mass. (NB) — Lotus Development Corp. says it is seeing "a little softness" in sales during its current quarter, as buyers wait for Release 3.0 of its flagship 1-2-3 spreadsheet program. Lotus also blamed a seasonal slow-down in Europe for part of what is expected to be a disappointing quarter. Some stock analysts are predicting that earnings for the year at Lotus will fall for the first time in the six-year history of the company.

Trouble in Lotusland (South)?

CAMBRIDGE, Mass. (NB) — Lotus Development Corp. can hardly be happy that the company has made the front page of the WALL STREET JOURNAL. The paper's long profile casts deep shadows on Wall Street darling Lotus, noting that "there is trouble in Lotusland and critics are pinning much of the blame" on Chairman Jim Manzi.

Stock prices at Lotus have plunged as the new version of the company's staple, the 1-2-3 spreadsheet, is being ridiculed as vaporware. The article cites Manzi's personally brash and abrasive style as a factor in the declining Lotus image. Also hurting the company, says the article by William Bulkeley, is the reliance on just one product. Last year, the spreadsheet accounted for two thirds of

the company's US\$396 million in sales.

Elsewhere on the Lotus beat, the company plans to introduce a better version of its T-A-C software by the end of the year. Introduced in 1986, T-A-C is designed to move data between personal computers and mainframes. Lotus says the new version, Release 5.0, will be easier and faster to use. Got a spare \$40,000? That's what it will cost.

NEC Unveils 386SX Machines

BOXBOROUGH, Mass. (NB) — NEC Information Systems Inc. has rolled out two personal computers based on the slimmed-down Intel 386SX processor. The 386SX has a 32-bit processor with a 16-bit data path, making for faster computing than the 80286, at less cost than the 80386, with only a slight performance degradation over the heavier 386.

The new NEC machines are the PowerMate SX, a desktop unit, and the PowerMate Portable SX. Both have 16-MHz clocks and two megabytes of RAM. The PowerMate SX with one floppy (either 1.2MB 5.25-inch or 1.44MB 3.5-inch drive), 42-megabytes of hard disk, and a keyboard retails for US\$4,495. The Portable SX, same configuration, is \$6,595. The SX is available immediately and the portable will be out later this month.

ALL Charge Card Lifts 640K Limit

TORONTO, Ont. (NB) — However Lotus is solving its memory problems, the ALL Charge Card seems unlikely to be involved. Some people at Lotus are reportedly looking at the Canadian hardware memory manager but there doesn't seem to be a high level of excitement. Too bad. Other application developers bumping into memory constraints are actively interested. Quarterdeck found the board so enhanced the utility of Desqview that it is marketing the board directly.

I plugged a Charge Card into my AT (another version, the ALL Card, is available for 8088-based machines) and it instantly boosted my system's real DOS memory from 655,360 bytes (640KB) to 983,040 bytes (960KB). The card doesn't have any memory of its own but manages all of the memory in a system. Extended memory can be used to backfill below the 1MB boundary, to become EMS or EEMS, or to hold all of a system's TSR software.

Installation does not require a slot because the card plugs between the motherboard and MPU. In a few cases, installation can be a little tricky but ALL Computers, Inc. has a variety of converters to accommodate virtually any physical constraints imposed by a computer's layout. I required a special cable to reach my socket but the installation was still easy.

Many utilities are also supplied with the hardware. One of them lets me see exactly how memory is being used by the system. Another lets me drop real memory back down to 640KB in the case of compatibility problems. Compatibility can easily be an issue due to the relocation of video memory and the typical ill-behaved video management of a great many programs.

However, a large number of software solutions are provided. For those supported programs like 1-2-3, with the greatest need, the card is ideal. For users who can no longer work on an essential spreadsheet because more than 640KB is required, it is the answer to their prayers. Whatever you do to keep such an elephant from charging, don't take away its ALL Card; it'll just lose its memory instead.

US Yellow Pages Now on Floppy

NORCROSS, GA. (NB) — Digital Publications has begun shipping its PC Yellow Pages. The PC Yellow Pages is a database of local and toll-free business phone listings which takes up about a megabyte of space on a hard disk, and comes to you on floppies. The database which controls the listings features pop-up windows, color and graphics, with category indexes residing in your computer's main memory for fast access. It even has automatic phone dialing for telemarketing applications and label printing for direct mail. The cost — US\$100 to start, plus \$7 each for twice-yearly updates. Single-information listings, called "Information Packs," are also available.

Hewlett Packard Unwraps New PC

PALO ALTO, Ca. (NB) — HP has taken the wrappings off its most powerful PC to date, the Vectra QS/16, an Intel 80386-based, US\$4,000 computer with one megabyte of memory, expandable to 16 megs. There is one 5 1/4-inch floppy drive, seven slots, and it runs at 16 MHz.

Introduced last May, the new Vectra is now shipping four months late due to the shortage of memory chips. An HP spokesman says chips are still in short supply, but that the firm has enough to meet demand for the machine.

Meanwhile HP announced that it has shipped its one millionth display terminal. The first one was shipped in 1974 and sold for \$3,000. Fourteen years and one million terminals later, an HP terminal is priced at \$375, uses 95 percent fewer parts, and takes 92 percent less time to build.

Hewlett Packard cites Datapro International surveys which show that despite their low cost, HP terminals are rated by users as among the best performing in the past five years.

New Chips to Speed Up Laptops

SAN JOSE, Ca. (NB) — Chips & Technologies has announced that volume shipments have begun for its 25 MHz 386/AT CHIPSet, the industry's fastest 80386-based AT microprocessors currently in production. The company says it has also started volume shipments of 10 to 20 MHz PS/2-compatible sets for 80286-based Micro Channel Architecture systems.

Both products are ideal for laptop applications, as the firm's vice president explained, they are a "pure play on the laptop market." These are reportedly the first chips Chips & Technologies has specifically designed for the laptop market. They do not consume a lot of power, making them ideal for use in IBM-compatible machines.

More Power on Your Lap

SAITAMA (NB) — According to NEWSBYTES-JAPAN sources, the joint venture of Y.E.Data, Tokyo, and Olivetti in Italy — Saitama-based Pegasus — will supply IBM PC/AT-compatible and Olivetti-original laptop personal computers to Olivetti in Italy on an OEM basis. The manufacturing will be done in Y.E.Data's Shinkoh factory in Saitama, which is expected to make ten thousand units per month starting next spring.

The laptop machines may be based on the Intel 80386, are expected to have a very fast data processing speed, high resolution, and compact size.

Pegasus' spokesman would not comment on our information other than to say that a formal announcement of the products will take place next spring.

Eggs Thrown at Disneyland Hotel

ANAHEIM, Ca. (NB) — The Egghead Eggzhibition was at the Disneyland Hotel this past weekend, Friday through Sunday. It was speculated that the software exposition would be Egghead's largest ever—about 50,000—but one expected guest had decided to bow out.

The Eggs, as they refer to themselves, had planned on an appearance by Disney's own Roger Rabbit but, at the last minute, the rabbit rogered the professor.

Why Disney wouldn't field a costumed critter for an event in its own hotel, to promote Rabbit's own software, would seem to be a mystery, considering the emphasis on educational and recreational software that always has a significant family appeal.

Egghead provided the press with a large, comfortable facility and a list of new product announcements that were being made at the show. However, they hadn't quite gotten the knack of this press release thing. At least one of the products on the list had actually been released at a previous Eggzhibition earlier in the year. The vendor's own press kit had the announcement dated back in June.

Despite the narrow focus on a single retailer, this show has the potential to develop into a significant industry event. Exhibitors come not only from Egghead's extensive software lineup but from services like (mothers, cover your children's ears) CompuServe, and company chairman Victor Alhadeff is taking pains to give it a very professional execution.

It's not inconceivable that this show could fill the vacuum created when Interface dropped its software Comdex.

Excel-lence for Lotus 123

... Punk Software showed Allways to a few attendees hungering for a peek at their future. Like Funk's Sideways, Allways prints spreadsheets. But, it first converts 1-2-3 sheets to graphics and allows the user to specify a wide assortment of enhancements—fonts, page layout, character formatting, color, true double underlines, WYSIWYG (what you see is what you get) display and more—many of the things available in Excel. Lotus may be interested. This could be a quick route for 1-2-3 to pick up these features and devalue some of Excel's most differentiating features.

QUOTES

Observation of The Month

"The summer of 1988 is winding up as one of the most confusing periods in the history of the

personal-computer market. It has left some of the industry's biggest players looking like competitors in a game of Twister, bent into pretzels from staking out mismatched pieces of the market."

The Wall Street Journal

Quote of The Month

"Fax exports are the number one priority with Japan Inc — it's the business equivalent of the VCR."

Peter Bernstein, Senior Research Analyst
Probe Research, Cedar Knolls, NJ

TELECOMMUNICATIONS & FAX

After Santa Monica... Vancouver?

SANTA MONICA, Ca. (NB) — Sometime next January, Santa Monica will become the first on-line city. Using a Hewlett-Packard 9000 mini-computer running Unix and a US\$10,000 computer conferencing system called Caucus, city officials will be able to answer questions and conduct debates even with citizens who never leave their homes.

Lisa Carlson of Metasystems Design, the licensor of Caucus, told NEWSBYTES "They're going to make all public information, things like city council agendas, staff reports, court calendars, available online. Anything you could walk in to City Hall and get, you'll get online."

This city on the beach near Los Angeles is often referred to (jokingly) as "The People's Republic of Santa Monica." Its liberal politics and radical chic residents, like Jane Fonda and her ex-radical husband Tom Hayden, make such potshots easy. But here's something you can't laugh off.

More important, Carlson says, is the conferencing system, through which city officials hope to learn what their constituents want from government. "They can handle up to 64 simultaneous users," she says.

Metasystems is training moderators who can keep political discussions from getting out of hand. "Some abusers will turn up," she says. "If someone is a problem they may get thrown out of certain meetings, just as they'd be thrown out of a city council meeting if they started harranguing people there."

Anyone who lives or works in Santa Monica will have access to Caucus after January, once they complete a request form with their real name and address on it. There are urban-based conferencing systems elsewhere, Carlson concludes, like Cleveland's Freenet and Boston's Citinet. "The key is this is the first one that is city-sponsored."

UNIX

SPARCx Fly as TI Files Into Sun

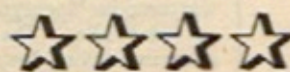
MOUNTAIN VIEW, Ca. (NB) — Texas Instruments has become the second major chipmaker in a week to announce that it has licensed Sun Microsystems' SPARC microprocessor technology. Matsushita announced such an alliance this week, saying it will incorporate the design into a line of its own workstations.

Texas Instruments, in conjunction with Cypress Semiconductor, will manufacture the RISC-based SPARC chip and related components to help meet an overwhelming demand for them from other companies, and TI will work on developing future versions of Sun's patented technology.

The alliance further supports Sun's goal of making its SPARC technology the standard for a new generation of computers. The chip has already been embraced by a variety of companies for incorporation into their workstations: AT&T, Unisys, Fuji Xerox, Xerox, and of course, Sun. It is now being manufactured by LSI Logic, Fujitsu, Texas Instruments, and Cypress.

AT&T Rolls Out New Unix

MORRISTOWN, N.J. (NB) — AT&T is now offering Unix System V-386 Release 3.2, which will run applications for Unix System V and for Microsoft's Xenix on the same machine. The product is a key in AT&T strategy of unifying the various Unix flavors that render the standard operating system largely nonstandard from machine to machine. By the middle of next year, AT&T plans to offer Unix System V Release 4.0, merging Unix System V, Xenix, and Berkeley Unix 4.2.



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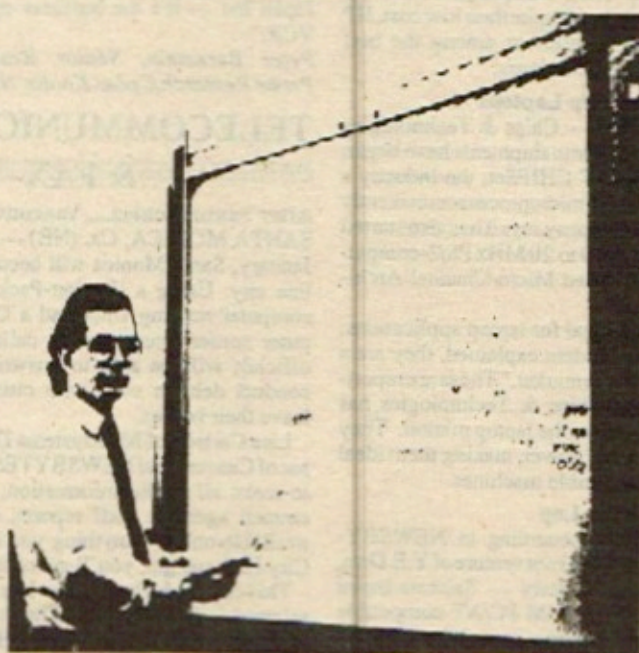
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Microsoft WINDOWS

INTERVIEW



For this interview, we had originally wanted to talk to Microsoft's president Bill Gates, but they told us he was already booked up that day. So we talked instead with Microsoft's Regional Director Blair Alsopp. It turned out alright, because Blair is a good talker and seems to be just as enthusiastic as his billionaire boss.

Blair was born in Edmonton, received his undergraduate degree from the University of Alberta. During the 70's Blair taught school in Australia and was involved in the establishment of computers in remote area education. After post graduate work in Australia, Blair returned to Canada and was with Apple computers as a Regional Marketing co-ordinator in Western Canada in 1986. This stint with Apple was very useful to Blair in his current job, as he mentions in the interview. He sees the whole process of launching the new graphics based operating systems as very similar to the process which Apple went through in marketing the Macintosh. For the last two years Blair has been with Microsoft in the position of Regional Manager.

Blair views himself still very much a teacher and educator in his position at Microsoft. He is enthusiastic and talks a lot with his hands. He wanted to do this article/interview in front of a writing board so that he could illustrate his points with diagrams and charts. Accordingly we have attempted to replicate some of these in the article. It fits because Windows and OS/2 are very much graphic based interface and deserves such treatment. This is a version of how it went. - Kirtan Singh Khalsa

What do you see as Microsoft's mission?

Microsoft's mission statement is "to put a computer on every desk and in every home." This deceptively broad statement sounds like it could fit every IBM, Apple and every other computer manufacturer. But it is ideal for us because we write systems software as well as programming languages and applications. Our goal brings us to the obvious conclusion that graphics based applications are the way to bring computers to many more people than currently use them.

Can you put OS/2 and Windows into a historical context for us?

Yes, back in 1975 the personal computer revolution really started with a computer called the MITS 8080. This computer was limited

ing, spreadsheets, databases and communications packages, so that is what we at Microsoft wrote. The issue now became training.

In 1982 Apple pulled a left field move and introduced the Macintosh. They avoided the compatibility issues and produced a computer which was not MS-DOS compatible. It was a bold move, and it took some time to establish it, but it worked. The programs were still productivity programs, but the emphasis was on ease of use. The issue for the Mac became connectivity back into the MS-DOS world. The computer becomes an information appliance, the new issues are dealing with the many tasks and diversity of applications possible with the simplified operating format.

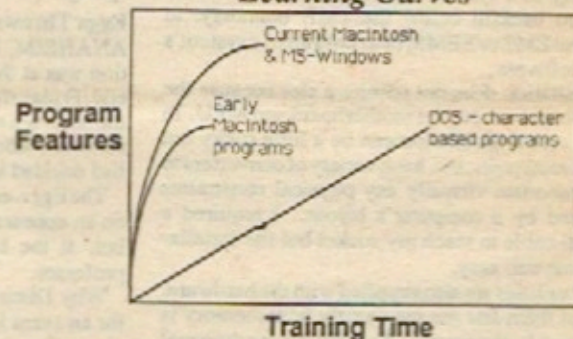
In 1987, IBM and Microsoft introduced OS/2. The feeling was that there was no longer room for another operating system. This is evidenced by the problems both Commodore and Atari have experienced in developing their markets. No doubt there will be niche markets that they both do well in. But they do not seem to be taken seriously as mainstream computers. There just isn't room. So IBM was strapped with the backward compatibility issues. OS/2 had to be able to run DOS programs in order to survive. They could not turn their back on some 16 million 8088/86 computers that are currently in operation. The issues for this generation therefore are of compatibility and hardware platforms.

Why is Microsoft moving into graphics based software?

Profit. The bottom line is that graphics based software lowers support costs. We estimate it costs about one third as much to support a graphics based application as a text based program.

Corporations have found that there is a much quicker learning curve with Windows and Macintosh applications compared to character based programs. Power users can get just as far with either approach, but they get there much quicker with graphics and a standard user interface. The programs which are emerging for Windows are full powered and easy to learn. That translates into a higher profit margin for a software company because even though it costs more to develop a Windows application, the training costs are substantially lower.

Learning Curves



Windows Programs Speed the Learning Curve

Are there differences in the training approach as well?

Yes, we see it as moving from keystrokes to concepts. The standard training room approach on character based programs is to by rote training people in the relevant keystrokes to perform their tasks. With a Windows program, many of these commands are very obvious. Instead training moves to a higher level, to a more conceptual level. Training can now be focussed on how best to achieve productivity with a given set of programs.

What is OS/2?

The architecture of OS/2 is modular. It consists of the Kernel, the Presentation Manager, the LAN Manager, a Communications portion and a Database portion.

The Kernel

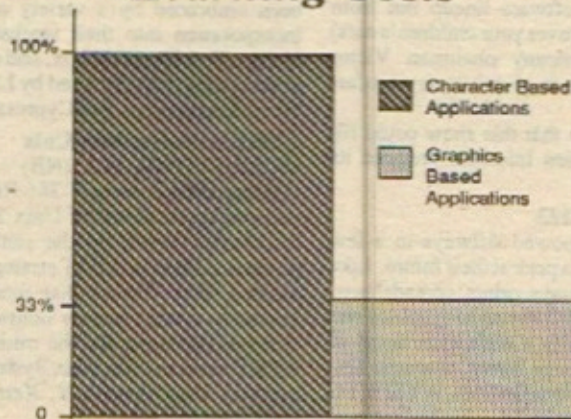
The Kernel is analogous to the Macintosh System. It replaces DOS as the operating system. OS/2 differs from DOS in how it accesses hardware. With DOS, because it lacked robustness, programmers traditionally have written directly to the hardware through the use of DOS interrupts. This has meant much more work on the part of software companies because they would have to write device drivers for a large variety of hardware types.

With OS/2 the software company writes to the OS/2 kernel. The hardware company can then create its own device driver which uses standard calls from the OS/2 Kernel. Software companies are left out of the loop. So long as their programs are well behaved and follow the rules, they only have to write their program once to the Kernel. Hardware companies are however left with a much higher expense in writing the drivers. DOS used to come "plain vanilla" which would run on most any computer. Now however the hardware manufacturer must have a substantial budget to ensure that they can purchase the engineering talent to write those OS/2 drivers. For this reason it is recommended that buyers shop for a vendor with sufficient resources to write these drivers. OS/2 is very machine dependant.

How good a job the vendors do of virtualizing the OS/2 will have substantial performance differences. 286 ATs may compete favorably with 386s depending on how well the drivers are written. Traditional hardware speed benchmarks will have to give way to specific tests of how fast a standard set of applications will run.

Companies that are currently developing Windows applications

Learning Costs



Windows Programs Cut Training Costs

largely to hackers and scientists. The important software at that time was computer languages. So that is what Microsoft wrote. We came out with MS Basic. The issues at the time was availability. I can still remember driving down to the U.S. and meeting people at a cross roads to get parts for an early personal computer.

In 1981 with the introduction of the IBM PC, the buyers were no longer limited to the hackers, they now were office workers and the important programs were productivity programs like word process-

Blair Alsopp Regional Director of Microsoft Canada



will have a big jump on doing OS/2 programs. Doing Windows is 80% of OS/2. There are currently over 6000 companies who have taken Windows and OS/2 courses from Microsoft's University.

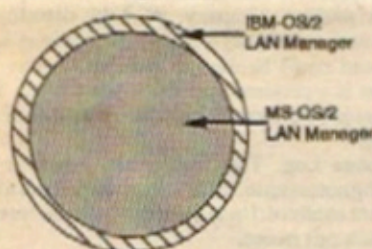
Presentation Manager

The Presentation Manager is analogous to the Macintosh Finder. This is the area in which the dispute over the "look and feel" is occurring with Apple.

LAN Manager

The LAN Manager governs how Local Area Networks will function. The LAN component is built into OS/2. IBM however plans to write its own LAN component they say will be a super set of the MS LAN Manager. In fact there are a number of companies currently developing their own supersets of the LAN Manager including Novell, DCA and 3 Com. The Microsoft LAN Manager has 130 Application Program Interface or API resource calls, which are similar to resource files on a Macintosh. The IBM LAN Manager will have 130 plus API's.

LAN Superset



Communications

In the area of communications, IBM will offer access to IEEE and System 3270. For many corporations who do not use IBM mainframes, this capacity will not be required. There will no doubt be other solutions offered as well, so that even if you don't buy IBM, you will not be stuck.

Database

SQL or Standard Query Language is the new standard which allows PC's to access data from mainframe databases. Solutions are coming for SQL from IBM, Ashton Tate and Oracle among others.

Conclusion

IBM has always specialized in offering the safe solution, this time that solution is one stop shopping. If components do not work together, you only have one vendor to blame. Other vendors such as Compaq may not be offering a LAN component, but instead recommending the work of another company such as Novell. This means buying from more vendors and presumably more compatibility problems. As has been seen with integrated software, the applications may not be as full featured when bought in an all in one package. Sometimes it does make sense to buy from multiple vendors if their products offer features not available elsewhere. It will depend on the situation and the buyer's needs.

What is LIM Spec Memory?

DOS currently has a 640K memory limitation. There are currently two ways around this limitation, IBM's way which is called expanded memory (or XMA) and extended memory or LIM. spec memory (from Lotus, Intel, Microsoft). Currently IBM is one of the few companies supporting its expanded memory and many others are falling in behind the LIM standard.

What are the differences between Windows/286 and Windows/386?

The basic difference is the difference between serial and parallel multitasking. 386 computers will be able to set up a series of "virtual" computers and have them all running simultaneously. With a 286 station, you will be able to load a series of programs, but only the front window will be processing. Action stops when you send that software program to the back and start working on the front one. With parallel multitasking the various tasks keep going. This is a great help when you are working with a large database or a spreadsheet that is recalculating. You just send it to the back, work on something else and return to it when it is complete.

The Macintosh currently does mostly serial multitasking with its Multi-Finder. But newer programs are being written which perform some tasks such as printing or download in the background.

Why should someone buy all of this OS/2 on speculation when they are already here on the Macintosh?

Dynamic Data Exchange is one exciting area where both Windows and OS/2 will move ahead of the Macintosh operating system.

Microsoft currently distinguishes four types of data exchange between two programs. The first is "Cut and Paste" which exists on Macintosh, Windows and OS/2 systems. The data movement is initiated and executed by the user.

The second type of data exchange is what is known as a "User Warm Link" where the user evokes a manual update which is completed by the software.

The third type is called an "Application Warm Link" in which the application sends a reminder to the user via a dialog box to update the link. This generally occurs upon re-entering the file. These first three types of data exchange are all available on the Macintosh, Windows and OS/2 systems.

The fourth type of data exchange called DDE or Dynamic Data Exchange occurs in real time between two applications with no prompting from the user. The user must of course initially install the link. This type of data exchange is available only from Windows or OS/2.

Serial Multitasking Vs Parallel Multitasking

	Serial Multitasking	Parallel Multitasking
Front Window	✓	✓
Windows Behind	✗	✓

Who really will use and need these types of Hot Links?

The reality is that on current hardware platforms, having data updated in real time can substantially slow down machine operations for most people. Bankers, stock market traders and travel agents are just some of the types of people who would benefit from real time updating of the data that they view.

What is Microsoft's strategy with PC Excel? According to recent sales figures, it doesn't seem to be selling too well.

Although Microsoft has only 10-15% of the overall spreadsheet market, it has approximately 35% of the 286/386 spreadsheet market, a much larger proportion. We are changing the rules of the game for the future, and we will do very well with it as things evolve.

What Will You Need to Run OS/2?

The minimum configuration to run OS/2 1.1 is a 286 based computer with a minimum of 2 megabytes of RAM, EGA monitor and card, a 20 megabyte hard drive. This is basically equivalent to IBM's System 50. To effectively run large scale communications or database applications, 4 megabytes of RAM and a 40 megabyte hard drive with VGA would be recommended.

For the average OS/2 user, it would be nice to have at least a 286 machine running at 20 MHz with 4 megabytes of RAM and a 40 megabyte hard drive.

What is in store for the 8088/86 computers which can't run Windows or OS/2?

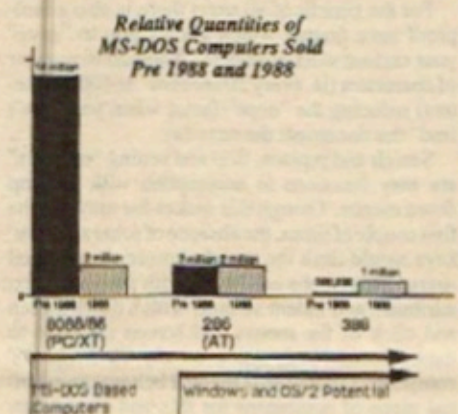
Microsoft recognizes that there are a vast number of computers already out there which can't run the new operating systems. Accordingly DOS will

continue to slowly evolve and add some of the convenience features of Windows. An example of this is in DOS 4.0 which has a DOS shell much like the Presentation Manager. It is still character based, but it uses the extended character set not bit mapped graphics.

With DOS 4.0 we have built in the LIM standard which lifts the 640K limit on RAM. We have also eliminated the 32 megabyte file size limitation for storage. The new maximum is something like 2 gigabytes. This will make things easier on companies with large databases.

We see a continued evolution for DOS. Of course the development teams are much smaller than in the other areas. Eventually, the 8088/86 machines will be viewed much as the Commodore 64 is today. Something you relegate to the children's rec room for games playing, or you donate it to a good cause.

It is interesting to look at how the sales for new computer purchases are changing. In 1988 there were about 2 million 8088/86 machines purchased. There were about the same number of 286 machines and about 1 million 386s. We see that mix as increasing for the 286s and declining substantially for the 8088/86 market. In addition there are about 2 million Macintoshes out there.



The faster 286 & 386 based machines are gradually taking over the market.

How does Windows fit into the scheme of things?

DOS/Windows is a very hot area today. We see it as a bridge to OS/2. The applications are available today. We are already on version 2.1 which is a solid operating system. Windows programs all follow SAA (Systems Applications architecture) and use the Presentation Manager both of which you will see in OS/2. In dealing with the major corporations, we see them all developing Windows workstations today to give their people experience in using these types of applications. The transition to OS/2 will be very easy for people with this type of exposure. For people wanting to increase their productivity and for applications which are available today, Windows is a safe way to go for 88/89.

When will we start to see OS/2 applications?

Comdex this November will finally be a software show. No longer will it be dominated by hardware vendors showing their latest monitors and hard drives. A large number of vendors will be demonstrating their OS/2 applications. Many of them will not ship until the first quarter of 1989, but at last the public will be seeing some of the potential of OS/2. I was involved in the launch and marketing of the Macintosh and it went through much the same thing. When it was announced, it shipped with MacWrite and MacPaint. Now these were revolutionary products at the time, but they lacked depth. Once the initial marketing barrage was over people started to look at the Mac and wonder what it was good for. The same thing is happening with OS/2, we are in the development slump and people are wondering when we will see some results. Well hold on...it is coming soon.

And what about the Mac?

Obviously Apple won't be sitting still through all this, there will be exciting developments from them as well.

How would you characterize the next two years?

1988 has been a year of much confusion. 1989 will be a year of transition and 1990 will be a year for implementation.

- The End

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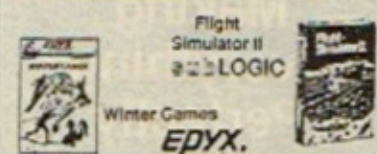
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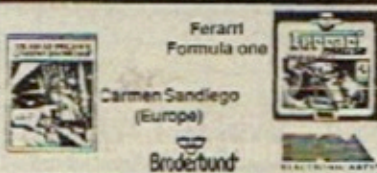


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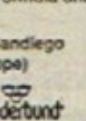


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PRODUCT FOCUS

Word Processing:

WinText

Word Processing Made Easy

WinText by Palantir, a word processing package designed to run under Windows, has some notable strengths and, of course, notable limitations. This word processing package seems aimed at the novice or uninitiated computer user whose word processing needs are at a basic level. As everything, including the documentation, addresses the operating process in cookbook fashion this translates into a very quick to learn and intuitive package with some fine little features. Being based around the Windows menu environment a uniform format across programs and provides the operator with a familiar landscape. Some of this package's features include niceties like page header and footer settings and simple automatic pagination and placement. Another nice touch is the "Tiling option" which allows two or more documents to run concurrently side by side or on top of each other in the same window making modifications of a letter so quick and intuitive one might think it was a Macintosh program. However, this and other functions eat memory, and with Windows running there is often little left, disk access time and computing speed become important factors to consider with Windows based products.

For the benefit of all users there is also a fool-proof save feature which allows you to "save" your current work at selected intervals or number of characters (ie. every 30 seconds or 100 characters) reducing the "oops" factor when you "can't find" the document the next day.

Search and replace, find and setting "markers" are easy functions to accomplish with the pop down menus. Though this makes for easy use the first couple of times, the absence of some shortcut keys would limit the speed of more experienced users. Paragraphs can be set with their own text attributes and indent settings with a quick sweep and click of the mouse and screen response to these changes was quick on my 12 MHz AT computer. The mouse is really, I believe, an essential piece of equipment for this and almost any Windows based program as the cursor keys are slow and cumbersome (at least to this dedicated mouse user). One strange aspect of this program is that they limited the spacing functions to single, one and one-half and double lines, but the selectable typefaces and point sizes are those installed in Windows which are only limited by your printer's capacity - this seems a somewhat frustrating lack of foresight in not exploiting the available capacity in typefaces more fully. By allowing some variable spacing instead of just maintaining the "standard" typist space settings more flexible document processing could have been accomplished in this program.

There are some quick and easy features such as undo last action, re pagination with page break confirmation, paragraph protection, and a very easy to use tab setting feature. This package also has mail out capabilities and merges with DbaseIII files for form letters etc. The many other very functional features contained within this program make it a fine option when considering a new word processing package for Windows which everybody can be using in a matter of hours.

WinSpell, an ancillary product to WinText, is the spell checker that WinText doesn't have and runs outside the WinText program. That it runs outside WinText means it is a little slower than other spell check programs, but allows you flexibility in checking a number of documents without loading them up first. As a spell checker this program is interesting in that it can run in the background and spell check a document while you are working on something else, prompting you when interaction is required and also showing the percentage of work accomplished. Modifying the dictionary and other aspects of the program's operation, such as redefining "hot keys" and switching lexicons is quick and straightforward. You may also spell check text on the clipboard or directly from the keyboards without loading them up first.

WinText C\$495, WinSpell C\$195. Palantir

Ward Stirrat is a Graphic Artist, Photographer and Electronic Publisher who works extensively with Microsoft Windows products. (734-3594)

PRODUCT FOCUS

Spreadsheet:

MS-Excel

Microsoft Excel Challenges Lotus 123

Lotus 123 has been the forerunner of spreadsheets for so long that it has formulated our expectations of what a spreadsheet should be. With Microsoft Excel the full featured and flashy spreadsheet has arrived. Running under Windows, Excel pioneers a graphics interface that far surpasses Lotus. Whether it replaces Lotus depends on whether users can give up the option bar for pull down windows and a mouse. Is it worth the change? On a feature count, Excel outdoes Lotus 131 to 89. Many of these features relate to running under Windows. For instance, multiple spreadsheets can be run side by side in their own window. Extensive links between spreadsheets are available, although requiring additional memory as the model surpasses 180K.

Dynamic Data Exchange (DDE)

Excel can even be linked to other programs with Windows dynamic data exchange (DDE). For example, the spreadsheet can accept information from a communications package and dynamically act on what it receives. Microsoft ran a pilot project demonstrating this aspect in conjunction with McDonald's Restaurants. As a hamburger was sold the cash registers sent the transaction information to Excel running on a PC in the back office. In turn, Excel sent it off to a regional office through a communications package. Excel at the regional office combined all the different site information together and sent it along to the national headquarters. Their Excel shunted the information up to the president's PC and dynamically charted actual unit sales from all the thousands of franchises; a full ten minutes after the sales occurs. This is only possible because of Windows, and therefore Excel's, DDE capabilities. Excel Charting is extensive with seven basic charts with 44 different variations chosen from a gallery. You can adjust just about anything you want to on the screen display; from font size and style, labels, titles...etc. Lets just say that Excel charting puts Lotus to shame.

Printer Support

A multitude of printers, including the high end postscript laser printers, are supported through the Windows drivers. There is a Print Preview mode that shows you a thumbnail sketch of what will be printed. You can zoom in on this to proof the text as well. Nice touches include an UNDO command. There is also a note capability; where you can attach notes to cells or equations. This can be invaluable for keeping track of involved spreadsheet models. For power users the macro language is considered one of the best. You can automate long strings of keystrokes with a simple keystroke macro. They can even call your custom programs into action. You can alter Excel's pull down menus for your own custom applications.

The Dark Side of Excel

What are its weaknesses? Excel does require a pretty beefy computer system. An AT is a minimum, and a fast AT at that. 386-based computers are the preferred choice. Color monitors make Excel shine; but a minimum of EGA resolution is suggested. It just looks lousy on CGA graphics. Another problem is its voracious appetite for memory. Models over 180K require extended memory. Will It Dislodge Lotus 123?

The real problem Excel has to contend with is inertia. Will Lotus users make the effort to rethink spreadsheets? Will they ever be comfortable with a mouse? I talked to one user who had the benefit of the best equipment possible; a 386 with VGA graphics and a postscript printer. He complained bitterly about Lotus and its lack of support for his printer and monitor. He praised Excel's formatting capabilities and stated his intention to learn it on his next free weekend. He did question the wisdom of a mouse and pull down menus, when the Lotus option bar seemed simpler. Last I heard he hadn't cracked open the manual, but it could be that the weather has been too good...

Excel: C\$679 Microsoft of Redmond, WA.

Daken Ariel is the President of Coastway Technology 989 West 8th Ave. Vancouver (736-5039.)

PRODUCT FOCUS

Personal Database:

PackRat

Let PackRat Run Your Life

Why would you need a personal database? Well, you are living in the 'Information Age' and there is a need to keep track of a growing volume of data.

PackRat is a personal, pre-structured data base, which enables you to search a vast amount of disparate information, via cross-reference key words, i.e. to find the proverbial needle in a haystack. Why not use a program such as DBase III+ to design your own data base? Well, PackRat has already been set up for you and is easy to run even for a new user, without a knowledge of the complexities of data base software.

PackRat runs on '100%' IBM PC compatibles, or PS/2 computers. It is designed for use with Microsoft Windows 2.03 or later, or Windows 386. However, you can use the run-time version of Windows supplied with PackRat. You can run PackRat with or without a mouse. A Hercules card and high resolution monochrome monitor or CGA are minimum requirements.

PackRat comes with a Setup program, which makes installation easy. A wide selection of printer drivers is provided, for you to choose from. While the program can be used with a 1.2Mb or two 360Kb or 720K drives, I tested it using a hard drive, which probably avoided a lot of disk swapping. After installation, there were 28 files totaling over 1.1 Mb, including the tutorial.

PackRat's main screen displays a calendar (current, a prior or a future month) with the main menu in a bar across the top. PackRat has seven facilities for storing different types of data, each with fields specifically related to the type of data. Keywords can be used to search one or all facilities. Truncated searches enable you to search with part of a keyword. With the exception of the Phone Book facility, which is not date related, all facilities can be searched by a date or range of dates.

7 FACILITIES

1. **Phone Book** The Phone Book is used to store: name, address, company, position, department and 2 user defined keywords for each person. One keyword could be used to indicate whether the person is a customer, prospect, vendor, etc. The second keyword could indicate the source of the listing.

2. **Phone Log** This facility has provision for making notes (up to 32,000 characters) about a call made or received. Up to 5 keywords can be entered for each call record.

3. **Task List** This is a to do list. Task priority is rated (1 to 7), there are 5 key fields, and prerequisite tasks can be entered. A task can be attached to a person in the Phone Book. Tasks can be assigned to other people and all tasks for an individual can be searched.

4. **Agenda** The Agenda is used to schedule your appointments, and make notes about what happened at meetings etc. A timer can be set to give an audible and visible warning before a meeting, providing PackRat is running on your computer.

5. **Expense Log** This provides a detailed record of expenses. There are provisions for: expense category, date, amount, keywords and notes.

6. **Index Cards** These provide cross-referenced records about any topic. 4 key words, up to 8 special labels, and space for notes are provided for each record.

7. **Disk File Log** Anyone who uses a computer much will soon find he has accumulated a large number of files, and may have difficulty finding a piece of data that is somewhere in his disk files. This facility stores the path, filename and keywords to find it quickly.

The User Manual

I am happy to report that the manual which accompanies PackRat is unusually thorough and well organized. The new user should feel comfortable using this manual to learn to use PackRat.

PackRat: \$US 395 A Personal Information Management System from Polaris Software, Escondido CA.

Chris J. Metten, B.Com. (325-9609) is a Technical Writer and Photographer, who specializes in writing software and hardware user manuals.

PRODUCT FOCUS Publishing:

Pagemaker 3.0

More than a Facelift

PageMaker 3.0 feels like a whole new program.

By releasing the most recent version of PageMaker, 3.0, Aldus has truly entered the high-quality desktop publishing market on the PC. Version 1.02 of PageMaker, though it was a valiant effort, did not always work as was claimed by Aldus; the most common problem was that of files not printing. Version 3.0 has a much better performance record—so much better in fact, that it is a pleasure to use. New features such as Style Sheets, Image Control, Windows 2.03 compatibility, and better printer controls give PM 3.0 the look and feel of a professional layout program.

System Requirements

Aldus does not recommend running PageMaker with less than 550K of available RAM. PageMaker comes with a new utility called MEMORY.EXE. Calling up this program will tell you how much memory is available for PageMaker in RAM. Most AT systems have utilities such as hard disk partitioning, mouse drivers, menus, etc., to customize the operating environment. These utilities take up RAM space, very often more than they should, and limit PageMaker's operation to a slow crawl. Most systems will find that they require more RAM to work with PM 3.0; 1 megabyte will soon develop as the minimum configuration standard (more would definitely be best). But if 1 megabyte is all you have, I suggest you create a RAM disk of 384K and use it to place Windows' screen fonts in RAM. The improvement in screen refreshing for PM 3.0 makes the extra RAM quite worthwhile (see your PageMaker Reference manual for instructions).

Shortcut Commands

As with its previous version, Aldus takes advantage of the Function keys (F6 for Bold, F7 for Italic, F3 or F4 to scale up or down to the next font size, etc.) for shortcut commands. As is typical of Windows, there are always two or three ways to perform a command. You can use the menus, the shortcut (function key or Ctrl + letter) and a new technique unique to Windows 2.03, using the mouse to pull down the menu and then typing the character which is underlined for that particular menu item (menus are also accessible through Alt + the underlined character instead of the mouse).

Print Menu

PageMaker's Print Menu has also greatly improved. It is now much simpler to use than "Target Printer" ever was. Simply select Printer Setup, choose the printer wanted and setup its options. When printing, a Setup option is available directly from the Print dialogue box, letting you change options such as landscape or portrait directly from the print dialogue box rather than from Printer Setup.

Desktop Publishers who use full-blown versions of Windows should also make sure that they use the printer drivers available on the PageMaker disks. These are updated versions and include more sophisticated controls than those which come with Windows. (An easy way to check with PostScript printers is to look at the version number at the bottom right of your Printer Setup dialogue box—if it says 2.00, it is Windows', but if it says 3.00, it is Aldus'. Use 3.00!)

Downloadable Fonts

Installing downloadable typefaces can be a bit of a chore. First, a PostScript printer must be set up through Windows, then the font must be installed through Adobe's Font Installer. When the Installer asks you whether you want the font in Windows, you must say yes. The Installer will then apply to Windows' fonts section and to the PostScript printer section of your WIN.INI file. Important! The number of fonts in WIN.INI's fonts section should be equal to the number of softfonts listed under the PostScript printer section. Also: Should you add any other PostScript printer (such as one linked to OUTPUT.PRN for Linotronic printing), you must copy all the softfont information from your first PostScript printer to the new entry in WIN.INI. Then quit windows and restart (to apply new Windows defaults). If this is not done, your softfonts will all print as Times Roman on the Linotronic.

Installing Screen Fonts can also cause problems if you are not using the latest version of the Printer Driver. The first thing to do is check on your printer driver; if it is not the latest, delete the old one and

re-install a new one from the PageMaker Drivers disk. Screen Fonts should then work with no difficulty.

Import & Export Filters

The new version of PageMaker can import text from a wide variety of word processors, but like most programs on the market, it has yet to catch up to the most current version of some of these. One of the most needed import filters is that for Word Perfect 5.0. Aldus assures me that "it is in the works", but no release date is available as yet.

A new addition to PM 3.0, is the ability to export files from the PM document back to a word processor for major edits. The text file can then be re-imported into the document to replace the file already laid out. PM 3.0 comes with three export filters: Text Only (ASCII), MS Word and IBM DCA format. Aldus claims there are no more in the works as yet.

Options Menu

The menu with the most changes is Options. New features include Snap To Rulers, Autoflow, Text Wrap, Image Control, Style Palette and Colour Palette.

Snap To Rulers finally gives us the ability to position elements on the page in precise increments. With PM 1.02, everything was lined up according to approximations. Using Snap To Ruler in PM 3.0, we can now position elements in increments based on the ruler measurement units.

Autoflow is basically a switch which can be turned on or off. When on, Autoflow will automatically flow text from column to column and create new pages for the document. With it off, text placement is the same as it was before. You can set the switch to your own personal preference as a default (setting defaults in PageMaker consists of accessing all the available menu items when no document is displayed), but switch manually (by pressing Ctrl when flowing text) as you need it.

Text Wrap gives automatic text flow around any graphic element on the page. This creates a second marquee around any image. This dotted line marquee can be controlled by clicking on one of its buttons and moving it. If you want to make a more comprehensive wrap, simply click on the dotted line to make a new point and move it to your desired location.

Image Control allows for control of scanned and bit-mapped images directly within PM 3.0. It applies dot and line screens and controls contrast and lightness on images already imported into PM. This is much easier than having to go back to scan an image again. Colour control also lets you apply spot colour to scanned images, graphic elements and text.

One of PageMaker's greatest new features is the ability to apply Styles to textual information. Formatting becomes a breeze when styles for headlines, subheads, captions and body text are predefined. Templates can now be much more comprehensive than ever before because they can include master page elements as well as text styles. These style sheets can also be exported to word processors such as MS Word which already support style sheets. They can also be pre-applied when you know which codes are going to be used in PM 3.0 (PM styles appear as: <stylenam> in word processors, an easy way to use these in word processors is to put them in a glossary, calling them up when needed) allowing for formatted text to be placed in PageMaker.

Conclusion

Much more can be said about the new features of PageMaker. This program has truly come of age in its new version. No longer can we say that DTP on PCs is not nearly as good as on Macintoshes. PageMaker 3.0 is now a professional layout tool. The only thing missing in the PC environment for true high-quality DTP is a user-friendly graphics program. I know Aldus has FreeHand on the Mac. Perhaps they will consider porting it over to the PC as they have done for PageMaker. Let's hope they are listening...

PageMaker CS895 Aldus Corp. Seattle WA.

Nelson Ruest is a training consultant and desktop publisher for ONCOURSE Learning Centres' national network. He has used various layout programs for several years. He is also president of Resolutions, a DTP consulting firm. He can be reached at 669-9800.

PRODUCT FOCUS Publishing:

PRODUCT FOCUS Windows Alternative

DESQview

Multitasking Now

One of the major disadvantages of using the DOS operating system is its inability to run multiple tasks at the same time. The long awaited OS/2 operating system offers relief but has yet to accumulate the vast array of available software that is available for DOS. Using one of the available DOS alternatives, such as DESQview, may be the next best thing. Multitasking on the XT and AT variety of machines follows a completely different set of rules than the newer 386 machines.

Several programs are available (and have been for some time) that can partition available memory and run quite an array of software in those partitions. DESQview, probably the most common, gained popularity mostly through the use of bulletin boards and communications software. Multitasking software offered users the ability to run communications software while still being able to use their system for other tasks at the same time.

There are a number of major problems associated with running programs written for an environment not designed for multitasking, the major one being that a goodly proportion of software out there is not "well behaved" and accesses hardware directly without letting the operating system know what's happening, all in the name of speed and efficiency. There is also the 640K memory limit and the fact that once you have divided up that memory into the various chunks required for your software, you may not have enough room left to do much of anything. For those reasons, and many others, setting up multitasking software packages on your machine, in many cases, is not going to be an easy task for the computer novice.

Software that accesses your computer hardware directly by bypassing the operating system can be a real problem with video unless you happen to use a newer 386 machine. Since most of us can't quite yet cough up enough cash for one of those powerhouses, we are stuck with the problem of bleed-through. If a task that is running in the background happens to write something on the screen by doing a direct hardware call, you are going to see that information written over whatever you are trying to view in the foreground task. This bleed-through can be annoying and tedious, but generally harmless.

Figuring out what software works and what doesn't, in this regard, is a chore that DESQview has made easier with its rather friendly pop-up window interface. DESQview has also made some problem software workable with custom "loaders" for many of the more popular software packages, but if your software can be modified in its installation program to do proper DOS or BIOS ROM calls then you will have no problems.

Users with only 640K of memory will soon run into severe limitations. Multitasking software uses memory, add that to whatever is required to run your two or more programs and you have a problem. DESQview uses what is called "virtual memory" and will swap memory images of programs to disk or expanded memory to make more room, but this will suspend those tasks until you re-enter them again—not multitasking. But if your PC has an enhanced expanded memory (EEMS) board then you may multitask as many applications as you can fit into available memory, keeping in mind, of course, that the more tasks you run, the slower your machine will be.

The most common problems I have had with multitasking software, other than bleed-through, is with communications software missing the occasional beat when some other task is tying up the computer with some heavy duty chore.

If fairly simple multitasking is all you require, then this program could be for you. It is certainly not expensive and well worth the price. Be warned, however, that your application may not work with this, or any other multitasking software package. It may be a good idea to call and check first.

If first class, and generally trouble free, multitasking is what you're after, then the 386 machines are certainly the way to go. Most of the problems encountered above have been rectified with the new high speed 32 bit processors since they are designed to do multitasking from the ground up.

Quarterdeck Santa Monica CA \$129.95 U.S.

Dale Jackaman is a Technical Support Manager at Coastway System Technology (736-5039)

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dBASING On A Mac: Foxbase and Filemaker

Historical Files

Possibly the single biggest problem with the Macintosh computer has been the lack of good business database management software. Unlike the MS-DOS world, where Ashton-Tate's dBASE has reigned supreme since day one, no single database product has emerged as the de facto standard for information management on the Mac even though five years have passed since the Mac's introduction. MS-File has been around forever but it's so slow and weak that no one likes to use it. There are a number of high end relational databases for the Mac including: Double Helix II, 4th Dimension, dBase Mac, and Omnis 3. These first three databases mentioned, although very flexible for creating complex databases, all suffer from very slow performance on anything short of a Mac II. Omnis 3 has decent speed, but many feel it has never taken off because of an ugly user interface. Because no program has become dominant, developers have had a tough time deciding onto which bandwagon to jump. Everyone is still wondering what database will emerge as the standard for custom application development in the Macintosh arena.

There are really two kinds of microcomputer database programs: simple list managers, and complex relational systems. Popular list managers are programs like MS-File, Overview, FileMaker Plus, and the database portions of MS-Works or Excel. With these programs, you can only work on one file at a time (although often you may simultaneously look up information in other files). In general these databases are easy to use and are perfect for managing mailing lists, parts lists, and other plain ordinary lists of information. However, it is virtually impossible to use these programs to create true stand alone database applications like accounting packages, stock portfolio managers, or reservation booking systems. For those tasks you need a relational database system that contains a built-in programming language. Programmable databases like 4th Dimension, Omnis, Helix, dBase Mac, and FoxBASE+Mac can be used for these jobs. It appears that FileMaker II, now marketed by Claris as version 4, is emerging as the most popular flat-file database for the Mac. Claris claims that according to independent surveys, FileMaker has about 45% of the market share of all Macintosh database management

software. FileMaker's previous version, FileMaker Plus, was already an excellent program but Filemaker II surpasses it with dozens of refinements and new features that will surely clinch its position as the front-runner of Mac databases. Meanwhile a clear leader has yet to come forth from the pack of powerful relational databases available for the Mac. Omnis and Helix share long-standing loyalty from their diminishing clans of users. 4th Dimension looked like it would take the prize, but turned out to be too slow, too expensive, and too difficult to program. Ashton-Tate's dBASE Mac does not live up to expectations as it is much too slow for true business applications.

Now, a new entry into the Macintosh database market looks like it may finally satisfy the need for a programmable relational database product. FoxBASE+Mac from Fox software has been getting consistently rave reviews, with its stunning speed, excellent user interface, and its well known dBASE III programming language. It can run native dBASE code copied directly from an MS-DOS disk (via modem or network) opening up a huge world of vertical market applications for Macintosh users. In addition this code can be modified to take advantage of the Macintosh graphic interface, while keeping the structure and logic of the original program. Extremely fast and powerful stand-alone Macintosh applications can be created with FoxBASE+Mac.

In this article I'll look at both Filemaker II and FoxBASE+Mac to compare and contrast their features.

Filemaker II

Past and present versions of FileMaker are unsurpassed in their intuitive easy-to-use interface. Tasks such as indexing and file maintenance are invisible to the user. FileMaker even periodically saves your changes to disk automatically to maintain data security in the event of a power failure. The use of fully customizable layouts to easily view data in any imaginable way coupled with very strong report printing and graphics capabilities makes FileMaker the database program of choice for quality printed output.

FileMaker Plus was an excellent database management tool but Filemaker II improves upon it in dozens of wonderful little ways (and some big ones, too). The new version of FileMaker disproves the old adage, "If it ain't broke, don't fix it."

The superb quality of this product begins the moment you open the box and pick up the manual. This is not your typical software manual in a plastic three-ring binder, but a beautifully bound hard-cover book that is so impressive, the disks almost seem to be included as an after-thought. The idea of publishing software manuals as hard-cover books may catch on, if only for the extra level of copy protection that it affords the publisher. (It is much more troublesome to photocopy the pages of a hard-cover book than a bunch of loose-leaf pages.)

What's New?: Multi-User Networking Features Filemaker II can now be used on a network by two or more users at the same time. Multi-User capabilities can be implemented simply by hooking up several Macs with AppleTalk cables, or by using a more sophisticated network system like TOPS or AppleShare. Any old FileMaker file can be shared by several people. When several Macs are simply connected with AppleTalk cables, the first user must open the file and un-check the "Exclusive" menu item in the File menu. Subsequent users may then open and use the file. There are many levels of password protection so that files or even individual

fields can have different levels of accessibility. Users may have browsing, editing or full file modification rights. Two users may work with the same record simultaneously. Any changes will appear on both user's screens.

Implementation of networking in Filemaker II is intuitive, seamless, and transparent to the user, but because of the slow speed of AppleTalk, it does slow down considerably the execution of most tasks. One word of warning to potential buyers, check with Claris that this networking capability will work on your machine. According to one support person, the networking capability will not work on any machine that started its life as less than a MacPlus. That is, even if it has been upgraded to a Plus.

Subtle Improvements

From the point of view of a seasoned FileMaker Plus user, the finest improvements in Filemaker II are rather subtle changes to the user interface. For example, there are a host of new keyboard shortcuts to speed data entry and manipulation. Command-Shift-O and Command-Shift-W open and close windows, while Command-U will preview a printed document. Other Command-Option key combinations allow you to skip various dialog boxes, for example Command-Option-E will delete records or layouts without the confirmation dialog.

In Layout design mode many small but welcome changes include "tricky" T-Squares, a Grid of twelve instead of nine divisions per inch, better placement of fields on layouts, and auto-scrolling of screens when objects are dragged beyond the borders. When in Browse mode, tabbing to a field off screen, brings the whole field into view. In addition, you may now define the Tab order of fields. In Find mode, pressing Return or Enter now has the same effect as clicking the Find button. These may seem like minor features, but if you are using FileMaker Plus every day to run your business, these tiny improvements will make life a lot easier.

When defining look-up fields, Filemaker II remembers the Look-Up file so that you do not have to re-open it every time you need to define more look-up fields. Also, when creating standard columnar layouts, Filemaker II automatically checks the "View as List" option.

There are dozens of other little enhancements to the program that make it even easier to use than FileMaker Plus. Custom paper size information now stays with the file instead of in FileMaker and it is no longer abnormally located under the Apple menu. Mailing labels are even easier to create and the Slide Objects command handles missing lines and information in mailing labels much better. Print Preview now shows the entire page including the margins. You may now have up to sixteen files open at once instead of eight. There is a Relookup command that recalculates values in look-up fields: very handy if you have changed something either in the Look-up file or in a calculated field that changes the value in a look-up field. Text formatting is now controlled from new hierarchical menus and can be applied to individual characters on the screen or in the actual data. Repeating fields can now be split into separate records for further manipulation and there is a full screen width option that allows more data-entry fields to be viewed on the screen at once.

Graphics improvements include new Round Rectangle and Oval object types as well as control over line thickness and fill patterns. Color, too, is supported in Filemaker II. You may now access the Time as well as the date from the Mac's system clock. Calculation formulas can have text results and there are eleven new text functions to manipulate text in formulas. Summary fields can now present running totals and running counts as well as weighted averages and fractions-of-totals. You may now also do a count on text fields.

Data entry has also been enhanced with data-type checking and user-defined pop-up lists of predefined choices. Also fields may now have multiple data entry options. One welcome improvement for those who have always wanted to document complex FileMaker Plus templates is the Print Field Definitions choice in the Print Dialog Box.

There is a new custom menu where you can display the names of an application's scripts along with new keyboard equivalents that will invoke them individually. Another improvement for scripts is the ability to chain scripts together so that a sequence of actions automatically takes place one after the other.

What's Still Missing in Filemaker II

Even with all the improvements in scripts, Filemaker II is still missing a procedural language that allows for true custom control of the database. There are no structured control features like Do...While and If...Then...Else. Also, you cannot customize the menu bar or the dialog boxes that the user sees.

Although repeating fields can be split and there is improved implementation of Auto-Lookup, these features are still clumsy compared to "true" relational databases. Another nice feature would be a script recorder like the macro recorder in Excel. Finally, although Filemaker II is a little bit faster than FileMaker Plus (when not in Multi-User mode), it is still relatively slow when dealing with thousands or even hundreds of records.

FoxBASE+Mac

If speed is what you crave, you must get FoxBASE+Mac. There is simply nothing that comes close to it for sheer raw velocity. In all tests and reviews FoxBASE+Mac has come through as the winner, often outpacing the competition by a hundredfold. If your application requires immediate answers to database queries while you are

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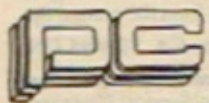
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FOXBASE+/Mac Continued

on the phone talking to a client, you need FoxBASE+/Mac. Other database programs for the Mac would require a few minutes of idle chit chat while you wait for the computer to find the information. With FoxBASE most operations take a few seconds.

Application Development Environment

FoxBASE+/Mac can be used like Filemaker II for simple flat file information projects but it is much more suited to the development of turn-key stand-alone database management systems with custom menus, buttons, dialog boxes, input screens and reports. The development environment offered by FoxBASE+/Mac is superb. You may have many windows open at the same time, each showing a different aspect of the development project. For example, program code segments can be in individual windows where they can be viewed and edited. The various user input screens can be displayed, and a Browse window allows you to view all the records in the database. Here you can edit them or watch them change during program execution. In addition there is a Debug window that displays the changing values of specified program variables and a Trace window that indicates the particular line of code being executed and its context. Both windows display their results in real-time while a program is running.

One of the most innovative FoxBASE+/Mac windows is the View window where you can see the status and structure of your working environment at a glance. Here you can see all of the open files, how they are related and if they are indexed. Just by pointing and clicking, you can change relations, indexes, and all of the environmental settings (such as the Bell, the default drive, the date format, or screen colors). You can even re-define all of the function keys on an Apple Extended Keyboard.

For old-timers who are used to writing dBASE code on MS-DOS machines there is the Command window where you can type in commands for immediate execution. This is like the old-fashioned dot prompt in dBASE III. The Command window also doubles as a handy learning tool for Macintosh lovers who have somehow avoided the MS-DOS world entirely. Whenever you make a menu selection or interact with a dialog box, your

strengths and adds dozens of enhancements. In addition, there is reasonably complete support for the Mac toolbox with its various buttons, dialog boxes, and other graphic tools.

The Mac interface is not as easy to program in FoxBASE+/Mac as it is in HyperCard. For example if you want to display an arrow button that displays the next record when clicked, you must refer to it by its PICT resource ID number in a rather cryptic @SAY...GET command. FoxBASE+/Mac is not for computer programming novices, but it should attract a healthy following of custom application developers on the Mac.

Running MS-DOS dBASE III Applications on the Macintosh

When you want to port an MS-DOS dBASE application over to FoxBASE on the Mac, you begin by getting the native MS-DOS files onto a Mac disk (using a modem or TOPS, etc.). After starting FoxBASE+/Mac from the Finder, you simply select the Do command under the Program menu. A dialog box appears with all the MS-DOS files displayed. All you need to do is select the program you want to run and sit back. FoxBASE+/Mac automatically converts the code to Mac format, re-indexes the files, and runs the program. An MS-DOS screen display appears in a new window with monospaced Monaco font and the program usually works. If the converted DOS program made use of typical reverse video menu prompts, these are all present and work exactly as you would expect by pressing the arrow keys to move the "light-bar" and pressing the Return key to signify your choice. However, FoxBASE+/Mac has added another nifty feature: if you use the mouse to point and click on your selection the light bar follows your mouse clicks. Also a double click on a menu choice will select it. This is an excellent marriage of the MS-DOS and Macintosh worlds and Fox software deserves a pat on the back for their clever implementation.

Problems

FoxBASE+/Mac is a relatively new product and it has its share of bugs and unfinished features. For example, there are still a number of problems with printing. Unless you want rather dry MS-DOS style reports in a monospaced font with 66 lines per page, you will have to wait for version 1.1 which will contain a report and screen painting tool to simplify the creation of data entry screens and reports. This version is scheduled to begin shipping in October 1988.

The programming language of FoxBASE+/Mac is not new. Unlike HyperTalk which is one of the more modern, innovative programming languages on the Mac today, FoxBASE+/Mac's language has its roots in dBASE III, which is almost ten years old. The language of dBASE is powerful if you know how to use it, but there is a steep learning curve if you are new to programming. However there are dozens of books on dBASE available to help you up that steep hill. Although it has plenty of power, (more than HyperTalk in many cases) FoxBASE+/Mac's version of dBASE still imposes many old fashioned concepts like fixed length variable names and very arcane code segments. For example to put a standard Macintosh checkbox on the screen next to the word "Posted" you would write:

@ 4, 15 GET posted PICTURE "@*C Posted"

Granted, you get your checkbox with this one simple line of code but it is not obvious by looking at it. In this command the first two numbers represent screen row and column positions which are determined by the width of the letter "n" in the screen font being used. This is a real indication of the MS-DOS origins of this program, however the more conventional Macintosh pixel locations may be also used if desired. The GET command is used to get information from the screen. In this case a mouse click over the checkbox will toggle the value of the variable named "posted" between True or False. Note the mysterious collection of characters after the word PICTURE. This is how you specify a checkbox to appear on the screen next to the word "Posted." Obvious, right? Once you know the code. The PICTURE clause is new to the Mac world but is extremely powerful for alphanumeric data entry as it allows very easy data checking and standardization at the moment of data entry.

The documentation that comes with FoxBASE+/Mac does not have many examples of FoxBASE

code. The tutorial takes you through the manual operation of the program but stops short of discussing how to create stand-alone applications by writing your own programs. The best way to learn how to program in FoxBASE+/Mac is to import several MS-DOS applications into the Mac and examine how they were done. You can easily copy and paste code segments from other applications into your own programs.

There is currently no support for networking and multi-user operation in FoxBASE+/Mac, but according to the company, it will be coming in the next version. A run-time version of the program is not available yet either, but it, too, is also promised soon.

Fox Software is a very successful company in the MS-DOS world and I found their customer support to be simply the best I have ever experienced. Whenever I called, they would take my number and call me back to discuss the problem, sometimes within a few minutes. I never was put on hold and problems were discussed "on their dime." Twice, they have sent me recent versions of the program on disk by Federal Express Overnight Letter. If you are a vertical application developer (or want to be) and particularly if you are currently

developing dBASE or FoxBASE applications in the MS-DOS world but would like to break into the Macintosh market, you will feel very comfortable with FoxBASE+/Mac. There are still a few bugs to be chased out of the program but judging from the quality of the product in its first release I suspect that FoxBASE+/Mac will mature into one of the most popular relational databases available for the Macintosh computer.

Conclusion

No one knows what the future will bring but if you need a database program to manage information on the Macintosh today you cannot go wrong with either Filemaker II or FoxBASE+/Mac. If your needs are very modest, you can probably just use HyperCard, but if you need to extract information satisfying multiple criteria and you want to see your data in beautifully printed reports, you should consider Filemaker II. If you want to computerize your whole business and run it on a Mac you should look into having a custom system designed in FoxBASE+/Mac. Both of these packages will probably be around for a long time and their continued popularity means that your software investment will not be wasted.

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APPLICATIONS	UTILITIES
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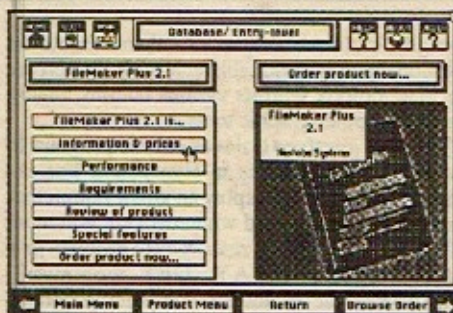
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HyperCard Development



Screen shot from The Macintosh Standard

Motion Works

For the past five years, Lloyd Bernhardt and Randy McCallum have been honing their skills in the growing field of interactive multimedia. Two years ago, they worked for the company that did the impressive information system that IBM used to guide visitors around the Expo 86 grounds. Last year when they started their own company Motion Works Inc., they switched their development efforts to the Macintosh when HyperCard was released by Apple. "Up until that time, the tools just weren't there" says Randy McCallum, who provides much of the visual design aspects to the Motion Works team.

With the release of HyperComposer, their first commercial product, they are making a name for themselves as developers of high quality HyperCard product. They have also done much of the development work on The Macintosh Standard, a HyperCard based news and applications preview publication.

Not Stackware

Motion Works has been careful to distinguish itself and its products from much of the low end "Stackware" that is offered in shareware or public domain offerings. They prefer to categorize their product as "Hyperware".

As Much Potential As Desktop Publishing

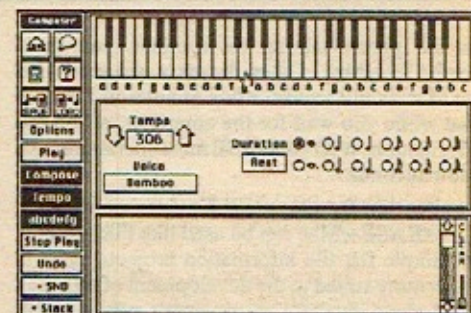
Their corporate focus currently is to develop the area of desktop presentations and interactive demos. They are in discussions with a variety of corporations, to develop product demos, publications and other multi-media presentations using HyperCard. They see this as a rapidly growing area, with as much potential as Desktop Publishing had a few years ago. "After the release of HyperCard, there was a lot of publicity, but then it died down and the serious development started. HyperCard was touted as a programming tool for everyman. While it does speed programming time, you still have to be fairly serious about it to make it work well. An analogous situation exists for dBase. There are many dabblers, but a much smaller number of people actually make their living at development. We see a large market out there for the types of things that we are great at" says Lloyd Bernhardt. "We just got off the phone with a HyperCard evangelist at Apple, who says that if we are any where near as good as she has heard, she has five or six companies just lined up wanting to talk to us. So far most of the developers have been focussed in California, and they are all booked up," adds Randy McCallum.

The future sounds bright for this up and coming Vancouver firm, and they claim it is all because motion works...

Hypercard For Accounting?

Motion Works is not the only firm with high hopes for HyperCard. Epsi Computer Systems, president Robert Eppich, up until recently headed the MIS department at Ebco Industries where he spearheaded the installation of a large number of Macintoshes. In cooperation with Ebco, he has started his own business. His emphasis is not on the presentation aspects of Hypercard but rather he intends to use its database and programming techniques to develop accounting and financial software. He sees HyperTalk (the programming language contained in HyperCard) evolving into something similar to BASIC, where many developers will customize applications built in Hypercard.

Motion Works Inc., can be reached at (604) 731-3989, Suite 2 2465 West 5th Ave., Vancouver V6K 1S7.
Epsi Computer Systems Inc., is at (604) 943-4194, 1654 58A Street, Delta B.C. V4L 1X4



Keyboard input eases HyperCard music entry

Product Preview:

HYPERCOMPOSER

HyperCard was Apple's big marketing hype last year. Things appear to have cooled off in the hype department, and now some solid development activity is occurring. Apple is quietly updating the HyperCard (they are at version 1.2.1 now) and a variety of third party developers are offering add-on products. One of the interesting features that HyperCard has is the ability to include music in its files (or stacks). Unfortunately this capability is not the easiest to access, as it uses a somewhat arcane syntax to record notes and their tempo. Motion Works, in the process of developing their own stacks for corporate customers, noted this short coming. Working totally within Hypercard, they have developed their own user friendly interface to enter musical notation. The stack opens to a screen with a keyboard running along the top of the screen. On the side are options for selecting "Compose" "Tempo" "Options" "abcedfg" "Stop Play" "Undo" "SND", "+Stack"

Slow Keyboard Response

Through the keyboard one enters the required notes. The response time between clicking on the notes and hearing the note play is fairly slow. This seems to be largely a function of HyperCard, which is not known for its blistering speed. This is not a major short coming since the stack is mainly meant to facilitate the entry of musical notes from previously written music. It could become a stumbling block if people attempt to use it to compose in real time.

For musical novices, the stack allows for the display of the names of the notes along the bottom of the keyboard. This is useful, but for the rank amateur who merely wants to reproduce a song from a song sheet, even this is not enough. The ideal would obviously have been to have a bar and staff notation onto which one could place the actual notes as in MusicWorks. This would allow one to merely replicate what is on the page instead of having to figure out what all these little symbols mean and remember "Every Good Boy Deserves Fudge"... This no doubt would have been a considerable achievement given the limitations of Hypercard. At any rate, what Motion Works has done with HyperComposer is to considerably speed up entry time of musical notes into Hypercard stacks.

Importing and Exporting

One of the areas at which HyperComposer excels is in moving sounds out of other stacks and importing newly created tunes into other stacks. The import facility is very straight forward. You merely select the stack from which you wish to extract a sound resource (SND) from and click open. A dialog box will return with a list of the sounds available. This sound is then added to your list of options for musical voices.

To export the song you have created, you save your composition, and then select "+Stack" and the program will add a button containing the sound to the first card of your chosen stack, which you can then navigate into your exact required position. You are also prompted to copy the sound resource along with the song, so that the voice you have chosen in HyperComposer is available in the new stack.

According to Motion Works, HyperComposer frees the developer from HyperCard's limit of 256 notes per script to over 11,000.

Looks and Feels Professional

A complaint against many Hypercard stacks is that they are often poorly conceived and executed. The "look and feel" of this program is very professional. The Mac interface is respected, and they have even included a Help stack and a demo template to illustrate exporting a sound and song. This product is designed for people who are doing serious development work in HyperCard and wish to speed up musical input.

MSP Billing: To Buy or Not To Buy?

The Minister of Health recently advised the Medical Services Plan (MSP) of a Cabinet decision which would require all practitioners billing MSP to submit those bills in a computer readable format by April 1, 1989.

The Plan has been instructed to phase out its data entry activities by that date which means the Plan will no longer accept claims on paper cards. The options for practitioners include submission through service bureaux, magnetic tape submission or submission via TelePlan.

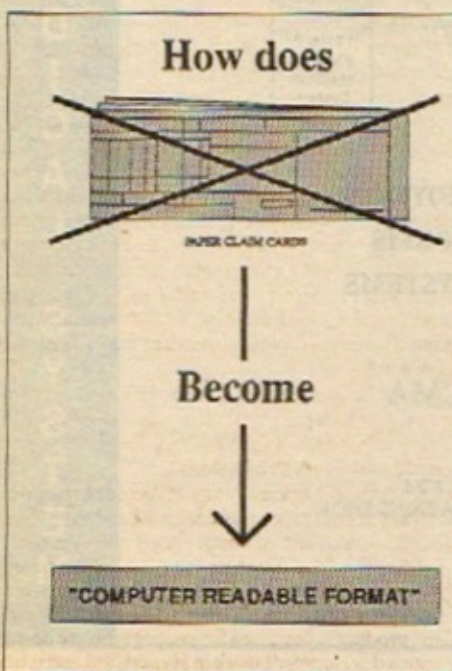
Why does the Government want to "phase out its data entry activities" and "no longer accept claims on paper cards"?

BENEFITS TO THE GOVERNMENT:

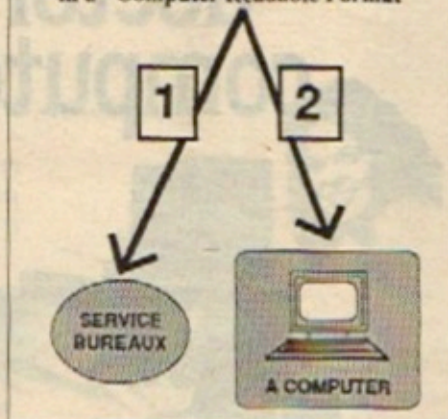
- **Save Money:**
 - Decrease operating costs by \$4-5 million annually.
- **Follow Government Policy:**
 - Budget cutting.
 - Increase "privatization".
- **Reduce Problems:**
 - Eliminate data-entry staffing problems.
 - Reduce the general MSP personnel problems.
- **Reduce Equipment Costs:**
 - Eliminate Claim cards recording.
 - Microfiche machines & storage.
 - Mail processing machines.
- **Increase Accuracy:**
 - Accuracy of claims payment.
 - Accuracy of physicians monitoring.
- **Speed-up Operations:**
 - Increase efficiency of processing claims.
- **Have better statistics:**
 - On physicians usage.
 - On pattern of practice.

The Benefits to the Practitioners are:

- **Get Paid Quicker by M.S.P.:**
 - From former 6-8 weeks down to 3 weeks.
- **Allows Patient Eligibility Check:**
 - On-line Eligibility Check:
 - Check a patient number "on the spot".
 - Batch Eligibility Check:
 - Check a group of MSP numbers in a batch
- **Reduce Rejected Cards Problems, due to:**
 - Wrong MSP number.
 - Missing birthdate.
 - Incorrect fee code.
 - No referring doctor number.
 - Name and ID number do not match.
 - Etc.
- **Faster, Easier & Accurate Correction of Rejected Claims:**
 - Claims sent by telephone lines, instead of by mail.
 - Claims processed directly by computer.
 - By-passing mail room handling, microfiche, sorting.
- **Eliminate Dependency on the Post-Office:**
 - Insufficient stamps.
 - Stopping at mail boxes.
- **Reduce Paper Problems:**
 - Storage for mailing envelopes, cards, filmsies.
 - Buying paper supplies.



2 WAYS to send your MSP bills to MSP in a "Computer Readable Format"



How do I choose between a Service Bureau or buying a Computer?

The answer depends on YOUR situation

- How many claims do you send to MSP each month?
- Do you have the capital to buy a computer?
- Is your practice growing rapidly?
- Are you planning to retire in the near future?
- Are you still doing locums, and do not have an office?
- Are you a Specialist who sees only 8 to 10 patients a day?
- Do you want to use the computer for other tasks?
- Is your geographical location isolated, so that servicing costs are prohibitive, or long-distance telephone charges substantial?
- Are you interested in computers, and want to learn more about it, while the office pays for it?
- Do you already own a computer, and want to adapt it to do your office billings?
- Do you find the number of your rejected submissions unacceptably high?

How do I determine my situation?
By doing a **ASSESSMENT!** on

1. Your Self

2. Your Practice

3. Your Staff

Reasons for doing an Assessment

Why do I have to do an assessment?

- So that you will get what you want.
- So that you stay within your budget.
- So that you will not under or over buy
- So that you will have the computer installed in time.
- So that you give recognition to YOUR practice situation:
 - urban vs. rural practice.
 - solo vs. group practice.
 - low patient volume vs. high patient volume.
 - locum practice vs. full-time practice.
 - general practice vs. teaching or research.
- So that you take your style of practice into consideration:
 - practice medicine vs. running a business.
 - intuitive thinking vs. logical thinking process.
 - does things in detailed meticulous manner
- So that you give consideration to future needs:
 - growing practice.
 - new partnerships.
 - enlarging to a Clinic/Group practice.
 - reducing practice.
 - nearing retirement.
 - planning to put more money into other ventures.

Instructions on how to use the assessment:

In the following Section, you have to choose one item from the left or the right column on the same line, by ticking a check-box. Count the number of boxes ticked in the left and in the right column and write the total in the total line. The side which has the largest total, indicates your suggested course of action. Have fun!

Questionnaire Begins on Page 21

Dr Robert Chen is an independent computer consultant specializing in Medical Billing Software. He can be reached at (604) 273-6701 Physicians Computer Consultants Inc. 8915 Cook Crescent Richmond B.C. V6Y 1X1

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- * Completely Menu-driven and so is easy to learn & operate
- * Powerful but **AFFORDABLE!**

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- * PROFITEK-PR Canadian Payroll System
- * PROFITEK-RS Retail Sales System
- * PROFITEK-VM Video Management System
- * PROFITEK-RM Restaurant Management System

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What's the best measure of value in a doctor's office computer system?



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IT'S NOT HARDWARE
IT'S NOT SOFTWARE

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Sure, our hardware is the best and most reliable there is. Sure, our price is competitive. And sure, our software provides the most flexible, comprehensive medical office system today.

But all that is not enough. So, we added "One Number Support," which means that Dialog will stand behind every system we sell, (hardware and software) and every practitioner using it. And, we continuously refine and enhance the software for all our users to keep it state of the art. That will include an upgrade, at no charge, to M.S.P.'s TELEPLAN II.

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Western Emergency Group
R.C.H. New Westminster

"After my fourth system I have now found a vendor I am really happy with!"
Dr. Charles Simpson, Victoria

"Terminic Package — Support outstanding!"
Dr. Don MacRitchie, Prince George

"I would recommend the system highly!"
Dr. Stan Shortt, Victoria

"Gave us control of our Accounts Receivable!"
Diamond Head Clinic, Squamish

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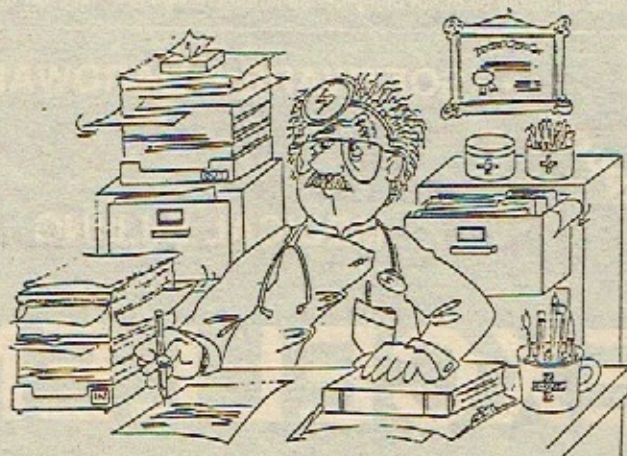
Member: Medical Software Vendors Association

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DOCTORS, are you suffering from REJECTED/OVERDUE ACCOUNTS?



1. Produced by a practicing B.C. physician
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4. Complete set up, training and support
5. Flexibility to suit all medical offices
6. No need for prior computer knowledge
7. EVERYTHING is included
8. The most generous and flexible rental plan
9. The best Teleplan II package

SYMPTOMS:

- Nagging pain from overdue accounts and rejected billings
- Headaches from working with disorganized patient files
- Frustration from lack of communication between professionals

DIAGNOSIS:

- Long turn around with non-electronic billing services
- No time to sit down and create patient lists for allergies, medications and diagnoses
- Poor facilities to easily compile, store and duplicate records pertaining to each patient

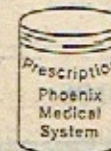
TREATMENT:

- Electronic Billing
- Phoenix Medical System (PMS) computerized patient filing retrieval system
- Computer storage of patient data, which is easily retrieved for communication by letter or transferred electronically

PRESCRIPTION

Rx Phoenix Medical System

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Mitte: One per lifetime.
Repeats: Never!



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MSP Billings:

How To Choose Between Using a Service Bureau and Buying a Computer

1. ASSESS your SELF

1. How do you feel about computerizing?

- ☐ No interest whatsoever! ☐ Willing and eager.

2. If willing, what would you like to computerize?

- ☐ MSP BILLING ☐ MSP BILLING USE ONLY PLUS OTHER USES such as:
☐ Word processing
☐ Private billings
☐ A/R, Etc.

3. Can you AFFORD?

A. To PAY \$100-\$200 every month for:

- ☐ NO ☐ YES
☐ paper & supplies
☐ electricity & telephone charges
☐ service & maintenance contracts
☐ hardware insurance costs
☐ other miscellaneous expenses

B. To spend the TIME to learn:

- ☐ NO ☐ YES
☐ how to operate a computer
☐ how to run the software
☐ how to do back-ups
☐ how to use TelePlan-2
☐ other software

2. ASSESS your PRACTICE

Is your practice:

- ☐ Part time practice ☐ Full time practice
☐ Few patients/day ☐ Many patients/day
☐ Decreasing ☐ Growing
☐ Solo practice ☐ Group practice
☐ General Practice ☐ Specialist
☐ Rural ☐ Urban
☐ Hospital based ☐ Office based
☐ Few private billings ☐ Many private billings
☐ Just beginning ☐ Well established
☐ Remote services ☐ Near to support services
☐ High staff turn-over ☐ Low staff turn-over
☐ Stable patient pop. ☐ Many transients

☐ TOTAL

☐ TOTAL

3. ASSESS your STAFF

1. How does your receptionist feel about computerizing?

- ☐ Absolutely against it! ☐ Willing and eager!

2. Which of the items below are considered problem areas in your office?

- ☐ Appointment scheduling ☐ Reconciliation
☐ Too many no-show patients ☐ MSP rejects
☐ Too small a waiting room ☐ Resubmissions
☐ Lack of time to do things ☐ Incorrect MSP numb.
☐ Telephone management ☐ Out-of-Province billing
☐ Drop-ins & Transients ☐ Re-writing letters
☐ Old & worn-out equipment ☐ Collecting bad debts
☐ Getting things repaired ☐ End-of-Month reports
☐ Burned or tripped fuses ☐ Doing the accounting
☐ Lack of office procedures ☐ Checking MSP number

☐ TOTAL

☐ TOTAL

ASSESSMENT SUMMARY

	No. of boxes ticked in the LEFT column	No. of boxes ticked in the RIGHT column
1. SELF		
2. PRACTICE		
3. STAFF		
GRAND TOTAL		

↓
 Seriously consider a Service Bureau
 ↓
 Candidate for a Computer

Date: _____

MSP Teleplan 2 ?

A Cause for Celebration.

On November 1, 1988

an alternative will be unveiled by
 Multilog at the

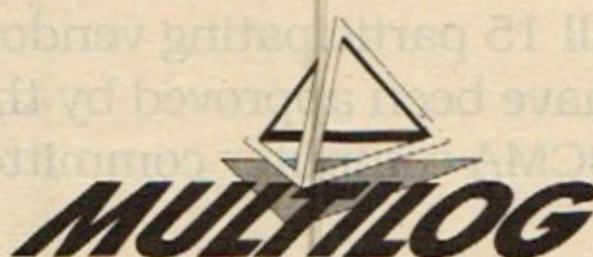
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MEDICAL SOFTWARE VENDORS ASSOCIATION

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Thursday, 20th October, 1988

9 AM - 8 PM

FREE ADMISSION

All 15 participating vendors
have been approved by the
BCMA computer committee

Medical Software Vendors Association Speaks Out

The Medical Software Vendors Association which had its inaugural meeting in July of 1987 was attended by representatives from ten companies. Today, of the more than 40 vendors in the province, 33 belong to the association. Some of these companies have been providing systems to the medical profession for a number of years, some represent doctors that developed their own systems and have taken the governments mandate as a marketing opportunity and still others are computer companies seizing those same opportunities.

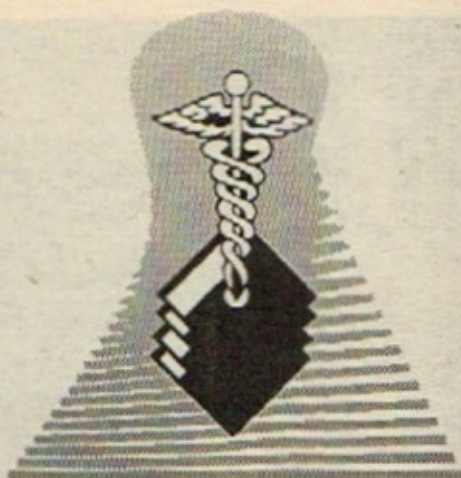
Association's Goals

As far as I am aware, the MSVA is unique in Canada. The association formed in response to an initial suggestion from the BCMA Computer Committee, and is a non-profit association under the BC Societies Act. Our primary goals are: -

- To liaise and advise with BCMA/MSP, primarily and other related bodies regarding matters of mutual concern.
- To provide a forum for the discussion and development of standards in the medical computing field.
- To promote an interface standard between computerized medical systems.
- To enforce a reasonable level of ethical conduct amongst its members - which extends to product performance, service and advertising ethics.

You will notice that the MSVA is not a marketing association. However, the secretary's office should normally mail a list of members to medical practitioners upon receipt of a stamped, addressed envelope.

In order to achieve these lofty goals, the MSVA meets on a regular basis to discuss directions and standardization issues. We have embodied in our constitution a method for disciplining companies misrepresenting either themselves or their products. Hopefully, this will encourage vendors to keep their standards high and make the industry a more professional one.



As I am sure you can appreciate, anytime you get such a fiercely independent, competitive group of people together in one room, discussions are lively and liable to become protracted. However, we have already managed to agree on a data-exchange format - this will help protect you from the costs of transferring data should you find yourself in the unfortunate position of having installed an orphaned system. The benefits to the medical profession over the long term should be significant.

There are 16 member companies that have met the BCMA Computer Committee approval requirements; some that are primarily service bureaux; however the majority of the MSVA members are complete systems vendors, providing systems intended to be installed within the clinic. You will probably find, during your investigations that a service bureau will cost approximately the same on a monthly basis as leasing, or renting, your own system. Naturally, there are tremendous productivity gains to be realized in having your

own system in your clinic, including such things as word processing for medical legals, referrals and recall letters, extracting data for research purposes, and possibly using the computer as a facsimile machine.

Finding The Right System

I wanted to make a few comments about finding the kind of system you want, and avoiding some of the disasters we've all heard about.

First, and of primary importance, it is necessary for you to discuss the matter with the others in your practice - including MOAs to decide on the route you want to take.

Second, read everything you can lay your hands on regarding computers in the medical profession, particularly in British Columbia. Find out as much as you can about the systems available to you. There is only so much any vendor can do to make you aware of their products; if you don't read their literature when it is made available, you will only have yourselves to blame if you later find you invested in the wrong system for your clinic.

Third, don't leave the decision making entirely to the clinic manager. If there are problems later on, you should be prepared to accept some of the responsibility yourself!

Fourth, start early!!! You know what it is like to have to drop everything and rush off to deal with an emergency. If you leave it too late, that is what it is going to be like, installing a system in your clinic come March 1989.

Fifth, plan to dedicate some of your own, but mostly your staff's time in training. Send your MOAs back to school to learn about managing your computer system. Many colleges are now offering courses on the more popular billing packages. Your responsibility is to your patients.

Sixth, a word of warning. Be wary of "reports" and "analysis" on software published by so-called "independent" consultants. If it is a "free" report, then you can bet the company that produced the report has a vested interest and the bias will probably become apparent during careful scrutiny.

While on the subject of reports, I'd like to make a comment about the report being distributed by the BCMA, prepared by Dr. Michael Beebe. While the report was very carefully prepared and as accurate as could be expected with no possible method for verification, it is now out of date. Most of the vendors have modified or extended their

systems. As a case in point, BOSS Systems no longer provides AMBR 2.0 but has instead replaced it with four versions: - EZ-Bill (MSP billing only for \$350), Total-Bill (MSP and private billings), AMBR v.3.0 Total-Bill plus patient records, multiple recalls, referrals etc. and AMBR v.3.0/Radiology.

Don't rely on the reports to give you a factual, accurate assessment of what is available, contact the BCMA or check the BCMA News for a list of "approved" vendors. Contact these vendors and arrange an appointment to view the system.

The June issue of the BCMA News carried a "computer supplement." Try to get hold of a copy. There is a lot of good advice available in this pull-out. Remember however, that some information may no longer be current.

Finally, BCMA computer committee approval is based on the following criterion:

- The software must have passed MSP's audit requirements.
- The company must be a member in good stand-

"If it is a "free" report, then you can bet the company that produced the report has a vested interest ..."

ing of the MSVA.

c. The company must have a minimum of five independent installations or post a bond for the equivalent software value.

d. The software must include a utility whereby patient demographic data can be exported to another system in the event the original vendor ceases to support his product.

R.A. Heller

Medical Software Vendors Association.

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- Prints Audit trails, billings, reconciliations, reports and graphs.
- Detailed printouts of reconciliations (+ M.S.P. rejection codes).
- WCB, out of province, 3rd party automatic billing.
- Complete medical profiles, history, referrals, prescriptions etc.
- Pop-up scheduler with variable time slots and extended periods.
- Patient follow-up with printout for contact and scheduling.
- Day sheets, chart header labels, card labels, printed graphs.

- Easy to use "Quick menus" for fast entry and printed files.
- Multi-practice/Multi-user works with popular networks.
- Alternate fee code descriptions and fee rates.
- Graph any reports or data desired.
- Uses ICD9, four digit diagnostic codes for more detail.
- Online Help windows.
- MSVA vendor interchange for use with other systems.
- Wordprocessor/DOS/Apple interface.
- Doctor to Doctor patient files transfer via telephone.
- Online MSP patient eligibility check.

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 464-8717. Call for night school start dates.
 Bedford Accounting or ACCPAC \$80
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 Intro to Bedford Oct. 3,14,31 \$145
 Advanced Bedford, Oct. 26 \$130
 VANCOUVER SCHOOL BOARD 736-7241 Van Tech
 ACCPAC-GL or Bedford Accounting \$90
 ACCPAC BPI, ACCPAC Easy, ACCPAC-Plus A/P A/R,
 G/L, Inv, Bedford Accting I & II \$80

DATABASE

ACCESS CENTRE Lonsdale Quay 984-4671
 dBase III + Call for dates \$140
 BARKEL BUS SCH. 211-3030 Lincoln Ave., Coq 464-8717.
 dBase III + Call for dates \$80
 BURNABY SCHOOL BD 5325 Kincaid St., Burnaby, 299-4361.
 dBase III + Lev. II, Oct. 26 \$80
 CAPILANO COLLEGE 2055 Purcell Way, North Van 984-4901
 dBase II-Level 2 Nov. 8 \$75
 dBase III + Skills, Oct. 13-14 \$325
 dBase II + Advanced, Oct. 19 \$180
 COMPUTER PEOPLE 302A 1124 Lonsdale N Van. 984-4349
 dBase III + Intro & Adv Oct19-Nov16 \$159
 COMPUTER STATION 2130 Burrard St, Vancouver 732-8621
 Intro to dBase III + \$180
 DRAKE 100-1111 Melville St 669-8789
 Symphony Database Oct. 6 \$175
 Introduction to dBase III Plus Oct. 4,25,26,27 \$175
 Intermediate dBase III Plus Oct. 20 \$175
 R:Base System V, Intro Oct. 14, Interm Oct 31
 FIALA, BONNER 810-1112 W Pender 684-1022
 dBase III + 1 Call for dates \$175
 KWANTLEN COLLEGE, P.O. Box 9030, Surrey, 588-4411.
 Intro to dBase III +, Oct. 17-21 \$200
 LANGLEY SEC SCHOOL, Rm 88, 21405 - 56th Ave. 533-4227.
 dBase III +, Oct. 27 \$85
 MICROAGE 3609 W 16th Ave, 222-1010
 dBase III + 1, Oct. 4 dBase III + 2, Oct. 26 \$175
 ONCOURSE TRAIN CENT 400-1190 Melville 669-9800
 Using dBase III + Oct. 13,14,17,18 \$225
 Applying dBase III + Oct. 24,25 \$225
 PERSONAL COMP TRAIN INST 200-247 Abbot 682-5448
 Reflex Plus Call for dates \$150
 PBSC TRAINING CENTRE 1350-1140 W. Pender 689-7272
 dBase III + 1, dBase III + 2, dBase III + 3 \$175
 PRECEPT LEARNING CENTRE, 735 Clark Dr., Van 255-3198.
 dBase III + Database Mngmnt 1, Oct24-25 \$145
 PITMAN BUS. COLLEGE 1490 W. Broadway 738-7848

dBase III+ Level I, Oct. 4-5 \$350
 DBase III+ Level II Oct. 6 \$175
 UBC CENTRE FOR CONT. ED. 5997 Iona Dr., Van.
 dBASE III + Getting Started, Oct. 19-Nov. 9 \$195
 VANCOUVER COMMUNITY COLLEGE 875-8200
 Using dBASE III +, Oct. 25 \$175
 Advanced dBase III + Oct. 24 \$130
 Database Using Clipper Call for info \$150
 dBase III + Intro Oct. 5,7,14,19,30; Inter Oct 1 \$145
 VANCOUVER SCHOOL BOARD, 1 736-7241.
 d-BASE III + I&2 Oct. 26; Progr Oct 31 Kits. Sec. \$80

CAD/CAM/CASE

BCIT, 3700 Willingdon Avenue, Burnaby, B.C. 434-1610.
 AutoCAD I, Oct17,24,29; II Oct 29, Nov 8 \$250
 SmartCAM, Oct. 3 \$250
 BURNABY SCHOOL BD, 5325 Kincaid, Burnaby 299-4361.
 AutoCAD Oct. 17 \$160
 KWANTLEN COLLEGE, P.O. Box 9030, Surrey 588-4411.
 Computer Aided Drafting Oct. 1-Nov. 15 \$300
 LANGLEY SEC SCHOOL, Rm 88, 21405 - 56th Ave. 533-4227.
 What Exactly is a Megabyte? Call for dates
 Computer Literacy for Beginners, Oct. 15 \$28
 MICROAGE 3609 W 16th Ave, 222-1010.
 Autocad, Customizing Autocad Call for dates \$175
 Autocad, Intermed., Oct. 17,18,19,20
 UBC CENTRE FOR CONT. ED.,
 CASE: Computer Assisted Software Eng. Call for info
 DATATECH INST 1138 Sherman Dr., Ottawa. K2C 2M4.Trou-
 bleshooting & Maintaining IBM PC, XT, AT, PS/2 &
 compatibles 2 day seminar, Van couver, Oct. 24-25.

DESKTOP PUBLISHING

(See also the Macintosh Section for Mac DTP)
 BCIT, 3700 Willingdon Ave., Burnaby, 434-1610.
 Desktop Publishing, Oct. 22 \$400
 BURNABY SCHOOL BD, 5325 Kincaid, Burnaby V5G 1W2.
 Desktop Pub Oct. 25,29; Excel Oct 26 \$80
 Intro to Microsoft Word, Oct. 26 \$80
 CAPILANO COLLEGE 2055 Purcell Way, North Van 984-4901
 Intro to Pagemaker Oct. 2,16,23 \$125
 COMPUTERLAND 1035 W. Pender 683-6152
 Excel Worksh Skills, Oct 14 Dbase Graph Oct19 \$180
 PageMaker Intro Oct. 5; Inter Oct 24 \$180
 DOPPLER'S TRAINING CENTRE 101 W. 5th 875-0261
 Ventura or Pagemaker Call for dates \$375
 DRAKE COMPUTER TRAINING 100-1111 Melville 669-8789
 Intro to Excel, Oct. 19 \$225
 FIALA BONNER, Ste. 810-1112 W. Pender 684-1022
 Ventura 1 Call for info
 KWANTLEN COLLEGE, P.O. Box 9030, Surrey, 588-4411.
 Intro to Ventura, Oct. 19 \$200
 Ventura, Pagemaker Oct. 4-11 \$190
 McKAY TECHNICAL INST 2151 Burrard St. Vanc. 736-7221
 Desktop Publ, Graphic Arts 12 wks, call for dates
 MICROAGE 3609 W 16th Ave, 222-1010.
 Pagemaker, Oct. 27, 28 \$175
 ONCOURSE TRAIN CENT 400-1190 Melville 669-9800
 Ventura Intro Oct 3,4 Nov7,8; Adv Oct 7, Nov 10 \$225
 Pagemaker Intro Oct 17,18, Adv Oct 21 \$225
 Design Basics for PC's Oct. 26 \$225
 PBSC TRAINING CENTRE 1350-1140 W. Pender 689-7272
 Pagemaker 1 Call for info \$450
 PRECEPT LEARNING CENTRE 735 Clark Dr 255-3198
 Intro to Desktop Publishing Oct 13,14 \$130
 DTP w. Ventura Oct 24,25 w PageMaker Oct 20,21 \$190
 PRIMA TRAINING 207-3900 Hastings, Bby 294-4567
 DTP using Ventura, Pagemaker Call for dates \$150
 PROFESSIONAL TRAINING 502-1185 W Georgia 681-5903
 Pagemaker & Ventura on IBM, Call for dates \$350
 SELKIRK COLLEGE, Box 1200 Castlegar V1N 3J1 365-7292
 Electronic Publishing, Graphic Design, Photography,
 Writing, 1 year program.
 SIMON FRASER UNIVERSITY Downtown 687-4255
 A Day With Ventura Publisher Oct. 19 \$175
 DTP Power with Aldus Pagemaker Oct 22 \$175
 Design+Print Production for DTP Oct15-Dec 10 \$300
 SOUTH GRANVILLE BUS CENT 1652 W 7, Van 732-8850
 Xerox Ventura Publishing Call for dates
 UBC CONTINUING EDUCATION 5997 Iona Dr., Van., B.C.
 DTP and Graphic Arts, Oct. 15,22 \$85
 PostScript Prog. for DTP, Nov. 5-26 \$195
 VANCOUVER COMMUNITY COLLEGE,
 PageMaker for IBM Oct 5,26 Nov 2; Inter Oct 12 \$165
 PageMaker for the IBM Newsletter Oct. 14 \$130
 VANCOUVER ELECTRONIC PUBLISHING ASSOCIATION
 Box 24776, Van 875-0677 Gen. Meeting 1st Mon of the Month
 Mac SIG 683-1599 2nd Wed of the month at 1035 WPender
 DTP Seminars:
 Intro to DTP Oct. 25 (\$25 for members). \$50
 Page Layout Nov. 15; DTP & Printing, Sept 28, Anatomy
 of Type Dec 1; Preparing Text for DTP Oct 19, (\$50 for
 members) \$80

Practical PostScript, Oct 6 I, Oct 13 II (\$100) \$130
 Design Vancouver: The Colour of Black Oct 21-30
 Exhib. of the best of Vancouver's electr publishing. Entry
 deadline Sept 30 224-6152
 VANCOUVER COMMUNITY COLLEGE 875-8200
 Intro to DTP \$130
 VANCOUVER DESKTOP PUB CENT 1150 Homer 681-9161
 Desktop Design Clinics \$69
 Ventura Publisher Call for dates \$129
 VANCOUVER SCHOOL BOARD 736-7241 Call for dates
 DTP: Ventura or Pagemaker John Oliver \$135

CONVENTIONS AND COMPUTER SHOWS

THE CONSUMER'S COMPUTER SHOW '88 Oct 22&23,
 Westcom Promotions PNE Grounds, New and used computers,
 seminars call for booths and tables 436-2677 \$5
 PACIFIC COAST COMPUTER FAIR & SWAP MEET, Oct
 1, 10-4 pm, McPherson Cent, 7325 McPherson, Burnaby, 270-
 0064. Table rental \$35 User group displays, door prizes.
 PACIFIC RIM COMPUTER & COMMUNICATION
 SHOW Nov 1-3, 1988, Vancouver Trade and Convention Centre.
 Call 433-9549 or 433-5121. Sales: Helen Levasseur
 CALGARY COMPUTER SHOW: Calgary, October 5-6.
 Contact: 416/252-7791.
 EDMONTON COMPUTER & OFFICE TECHNOLOGY
 SHOW: Edmonton, October 19-20. Contact: 416/252-7791.
 CANADIAN COMPUTER SHOW: Mississauga (Toronto
 Intern Cent, Nov 14-17. Contact: S. Wilson 416/489-3131.
 COMDEX FALL: Las Vegas, Nov 14-18. 617/448-6600.
 DESIGN VANCOUVER Oct. 21-30, 35 events throughout
 Vancouver: Art Gallery, UBC, Simon Fraser, Robson Square,
 Gastown, S. Granville, Stanley Park and Granville Island. Further
 info: Margo Bates or Jeannie Bates, 873-7212.

GENERAL INTEREST

UBC CENTRE FOR CONTINUING EDUCATION
 Effective Project Planning: A Hands-on Workshop
 Nov 28-29 IBM Education Centre, 701 Georgia \$375
 SIMON FRASER UNIV Fac of Appl Sci, Bby. : Fax 291-3851.
 Supercond. Materials, Oct. 20; Supercomp. Dec 7 \$105
 Prev. Maint. & Equip. Reliability, Nov. 17 \$350
 Expert Systems Shells, Oct 19 \$350
 MANUFACTURERS SEMINAR Nov 9, Holiday Inn, Broadway
 9-5 1) Accting packages, 2) Automated distn planning, 3)
 Intro to MRP, 4) Intro to CAD/CAM 4 seminars & lunch
 (\$295) or 2 seminars (\$195): Info Angela Rawson at 669-5588.

THE MEDICAL OFFICE

CAPILANO COLLEGE 2065 Purcell Way North Van 984-4901
 Intro to Comp. for Med. Off. Oct 12/16, Dec 3/4 \$140
 MEDICAL SOFTWARE USER GROUP Kevin Brawley 736-
 5039 \$35/year membership:
 MEDICAL SOFTWARE VENDORS ASSOC Medical Office
 Automation Exhibit held simultaneously with BCMA annual
 conv., Van Trade & Conv. Centre, Oct 20, 9-8 Info 731-1133 Free
 UBC CENTRE FOR CONT ED, 5997 Iona Dr., Van., B.C.
 Basic Comp. Liter. Skills in Med Off, Oct8; Med. Off.
 Man. Syst & Dbase Concepts Oct 29; Comp. your Med.
 Off. Oct1; Learning About Microcomp.: A Workshop for
 Medical Office Assistants Oct. 8
 VANCOUVER COMMUNITY COLLEGE
 Intro to Med. Off Computer Billing, Oct. 15 \$165

INTEGRATED SOFTWARE

DRAKE COMPUTER TRAINING 100-1111 Melville 669-
 8789
 Symphony Database, Spreadsheet Call for dates \$175
 Smart Spreadsheet Day 1 Oct. 12, Day 2 Oct 13 \$175
 PBSC TRAINING CENTRE 1140 W. Pender, 689-7272
 Symphony 1;2;3; Framework II Call for dates \$175
 VANCOUVER SCHOOL BOARD 736-7241
 dBase III + Call for dates \$90
 Framework II: Lev. 2 Oct. 31, Killamey \$80
 Symphony: Tips, Tricks & Traps, Oct. 25, Kits \$80

LOCAL AREA NETWORKS

DRAKE COMPUTER TRAINING 100-1111 Melville 669-8789
 Novell Sys Mgr Oct 27,28; End User Oct 18 \$415
 INDEPENDENT TECHNICAL SERVICE
 265-167 W 2 Ave. 873-3900.
 Netware Training \$250 3 hr/1 person \$400 6 hr/1 person

MACINTOSH

ADVANTAGE COMPUTERS Suite 1760 505 Burrard St.
 Intro to Mac, Intermed Mac, PageMaker
 Microsoft Works, Word, Excel, Hypercard
 BURNABY SCHOOL BOARD, 5325 Kincaid, Burnaby
 Bedford Acct. on Macintosh, Oct. 22 \$80

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Sunday Workshops.

BASIC COURSES

Basics of Microcomputers Levels 1 & 2
DOS Levels 1 & 2
Managing Your Hard Disk

DATA APPLICATIONS SERIES

MS-Works - Introduction to
Integrated Software
dBASE III- LEVEL 1, 2 & 3
Lotus Look-Alikes

SHAREWARE SERIES

PCFile+: Flexible Data Base
with Graphics Capabilities
PC-Calc+: Sophisticated Spreadsheet
with Graphics and Macros
PC-Write: Full-featured Word Processor

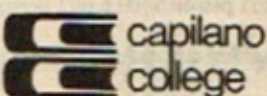
PUBLISHING COURSES

Microsoft Word Levels 1 & 2
Desktop Publisher
Introduction to Pagemaker

PROFESSIONAL SERIES

Introduction to Computers for
the Medical Office

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teaching experience. For days/times/fees send for your
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COMPUTER PAPER

COMPUTER CALENDAR

CAPILANO COLLEGE 2055 Purcell Way, North Van 984-4901
Basics of Micro-Computers Level 1, Oct. 31 \$185
COMPUTERLAND 1035 W Pender 683-6152. Pagemaker,
Excel, Macintosh Basic Skills, Word (Mac) Call for dates
FOLKSTONE DESIGN 986-8060 or 886-4502
Microsoft Word, Pagemaker, Excel
LANGLEY SEC. SCHOOL Rm 88, 21405 - 56th Ave. 533-4227.
Bedford Accounting on Macintosh, Oct. 18 \$55
Microsoft Works on the Mac, Oct. 17 \$45
UBC CENTRE FOR CONTINUING ED, 5997 Iona Dr., Van.
Intro to Macintosh, Oct. 4, 6 \$145
VANCOUVER SCHOOL BD, 1595 W 10th Ave., 736-7241.
Intro. to Macintosh, Oct. 31, Eric Hamber \$80

PROGRAMMING & DEVELOPMENT

BCIT Full Time 432-8419, Part Time: 434-1610
Assembler I (IBM Mainframe), Assembler II (IBM
Mainframe) 6 wks Assembler (IBM PC) 16 wks Basic (IBM PC)
16 wks Basic I 6 wks Cobol-Level I 6 wks Cobol-Level II 6
wks Pascal 6 wks PL/I Level I 6 wks
BURNABY SCHOOL BD, 5325 Kincaid St., Burnaby 299-4361.
Micro Processing II BASIC Intro Oct. 26 \$48
Data Proc. 2: BASIC Oct. 26 \$65
COMPU COLLEGE Van 682-6600 Bby 435 2424 Rich 273-0373
Computer Progr. & Syst. Anal.;
Microcomputer Electronic Tech. Call for dates
COMPUTER STATION, 2130 Burrard St. 732-8621.
Intro to Microcomputers Call for dates \$180
SFU CONTINUING STUDIES (Applied Sciences) 291-3844
Superconductive Materials Oct 20 (video conf.) \$105
Interdisciplinary World of Computing Oct 4 \$105
Intro Digital Comm: Concepts and Apple Oct. 11
Expert Systems and Exp. Sys. Shells, Oct. 17-19
Des. & Fabr. of Analog Integ. Circuits Using the
"QuickChip", Oct. 12-14 \$350
Digital Communications: An Overview, Nov. 2-4
UBC CENTRE FOR CONT ED Courses at Old Bookstore, UBC.
ANSI Standard C Oct 29; Adv Prog Tech Nov 5 \$120
Programming in C: Intro Sept. 22-Oct. 27 \$195
CS 5079-488 Sept. 14-Nov. 2 Sept. 24 \$250
Design Syst. Arch. Nov 17-8, Ramada 1733 Comox \$435
VANCOUVER COMMUNITY COLLEGE
Intro. Comp. Concepts Oct. 8; Intro Prog Oct 27, 31 \$175
Intro to Comput. Oct. 2, 8, 12, 17, 19, 22, 26, 28, 31 \$145

SPREADSHEETS

ACCESS CENTRE Lonsdale Quay N. Van 984-4671. Anytime,
Spreadsheets: Lotus 123 (Av. 20 hours) \$140
BARKER BUS SCHOOL 211-3030 Lincoln Ave. Coq 464-8717.
Lotus 123 Call for dates \$80
BCIT Full Time Registration 432-8419, Part Time: 434-1610
Business Applications (Lotus) 6 wks \$167
BURNABY SCHOOL BD, 5325 Kincaid St., Burnaby 299-4361.
Lotus 1-2-3 Oct. 15, 22, 25, 26; Lev II Oct 26, 7 \$80
CAPILANO COLLEGE 2055 Purcell Way, North Van 984-4901
Lotus Look Alikes Oct 1, 15 \$105
Shareware Series: PC Calc Call for dates \$125
COMPU COLLEGE Van 682-6600 Bby 435-2424, Rich 273-0373.
Microcomputer Business Applications Call for dates
THE COMPUTER PLACE 860 Burrard, 688-2992
Lotus 123 I Oct. 4, 18; II Oct 5, 19 \$179
COMPUTER PEOP LEARN CENT, 302A 1124 Lonsdale N Van.
984-4349
Lotus 123 Intro Oct 22, No 12 Adv Oct 19, No 16, Oct 22, No 12 \$159
COMPUTER STATION 2130 Burrard, Van. 732-8621
Lotus 123 Intro Oct 4, 20; Inter Oct 18; Adv Call \$180
COMPUTERLAND LEARN CENT, 1035 W. Pender 683-6152.
Lotus 123 Intro, Inter or Adv. Call for dates \$180
Lotus 1-2-3 Worksheet Skills Oct. 6, 12, 17, 25 \$180
Lotus 1-2-3 Database/Graph. Skills, Oct. 11, 26 \$180
DOPPLER 101 W. 5th, Vancouver 875-0261
Lotus 123 Intro or Advanced Call for dates \$175
DRAKE COMPUTER TRAINING 100-1111 Melville 669-8789
Lotus 123 Intro Oct 6, 14; Oct. 18, 19, 24 (Eve) \$175
Lotus 123 Adv Oct 26 Macros Call for dates \$175
FIALA, BONNER 810-1112 W Pender Vancouver, 684-1022,
Lotus 123 Lev 1, 2 Call for dates \$175
IPC SYSTEMS, 228 W. 7th, 873-5595
Lotus 123 Basics Call for dates \$150
KWANTLEN COLLEGE, P.O. Box 9030, Surrey, 588-4411.
Lotus 1-2-3, Oct. 3-7 \$200
Lotus 1-2-3, Oct. 4-11, 22, 29, Oct 25-Nov 1 \$75
Lotus 1-2-3, Oct. 11-14 \$160
LANGLEY SECONDARY SCHOOL 533-4227.
Lotus 1-2-3, Oct. 26 \$85
MICROAGE 3609 W 16th Ave, 222-1010.
Lotus 123 I Oct 6, II Oct 18, Adv Oct 31 \$175
ONCOURSE TRAIN CENT 400-1190 Melville 669-9800
Using Lotus Oct 11, 12 Nov 3, 4 Appl. Lotus Oct 24, 25 \$225
Using Microsoft Works Oct. 19, 20, 27, 28 \$225
PBSC TRAINING CENTRE 1350-1140 W. Pender 689-7272
Lotus 123 1 & 2, Macros, Functions Call for info \$175

Lotus Supercalc IV 1&2; Smart1; Excel 1 \$175
PERSONAL COMP TRAIN NST 200-247 Abbot Van. 682-5448
Lotus 123 II or Lotus 123 Macros \$150
PITMAN BUS. COLLEGE 1490 W. Broadway 738-7848
Integrated Software - Lotus 123 Call for dates
PRECEPT LEARNING CENTER 735 Clark Dr. 255-3198
Electronic Spreadsheets Oct 27/28 \$145
PRIMA TRAINING CENTER 207-3900 E Hastings, 294-4567
Using Lotus 123 Call for dates \$150
Lotus Data Management & Graphs \$105
PROFESSIONAL TRAINING., 502-1185 W Georgia 681-5903.
Displaywrite 4 Call for info \$350
Lotus I Oct. 18, II Oct 19, III Oct 20 \$175
SOUTH GRANVILLE BUSINESS CENTRE 1652 W 7, Ave
Van 732-8850 Lotus 1-2-3 Call for dates
UBC CONTINUING ED, Courses at Old Bookstore, UBC.
Lotus 1-2-3 Sept. 21-Oct. 12 \$195
Using Framework, Oct. 27 \$175
VANCOUVER COMMUNITY COLLEGE 875-8200
Lotus 123 Intro Oct. 6, 15, 23, 26, Nov. 5; Inter Oct 3, 6, 17, 21
Adv Oct 5 \$145
Using Lotus 123 Oct. 26, 31 \$175
Lotus 1-2-3 Spreadsheets & Graphs Oct. 22 \$115
VANCOUVER SCHOOL BD 736-7241
Lotus 123 Oct 25 King G Oct 27, Pt Grey, Lev 2
Oct 26 King G, Bus App Oct 27 King G, Excel Oct 27 John O \$80

TELECOMMUNICATIONS

PBSC TRAINING CENTRE 1350-1140 W. Pender St 689-7272
Crosstalk (call for dates) \$175
UBC CONTINUING EDUCATION, 5997 Iona Dr., V6T 2A4.
Info Access: Connect. to New Online
Dbases, Oct 22, BC Tel Educ. Cent, 1795 Willingdon \$60
Data Communications A User's Guide, Nov. 5 \$75
Inside the PC: A Tech. Perspective, Oct 12-Nov 2 \$95

USING YOUR PC

ACCESS CENTRE Lonsdale Quay 984-4671
Basic Operating Skills Call for dates \$125
BARKER BUS. SCH. 211-3030 Lincoln Ave, Coq. 464-8717.
MS DOS Tutorial Call for dates \$45
BCIT Full Time Registration 432-8419, Part Time: 434-1610
Computers in Business
Comp. Systems-Intro I II 6 wks \$139
Computing for the Timid, Oct. 17 \$85
Understanding PC/MS DOS, Oct. 25, 31 \$95
Intro to Data Processing HP & IBM PC, Oct. 29 \$182
Build your Own PC, Oct. 15 \$125
Micro Syst. Maint., Oct. 25 \$190
Micro Syst. Oper., App., Oct. 3 \$430
BURNABY SCHOOL BD, 5325 Kincaid St., Burnaby 299-4361.
Micro Processing 1 Oct. 15 \$32
MS DOS/IBM Oct. 1, 31, 20, 25, 27 \$75
Computerese Nov. 5
Understanding MS/DOS, Oct. 25, 31 \$80
CAPILANO COLLEGE 2055 Purcell Way, North Van 984-4901
Basics of Micros Lev. 1&2 Sep 12, 14, 15, \$185
DOS 1&2 Oct 8, 22,
Managing Your Hard Disk Nov 12 \$105
COMPUTER PEOPLE 302A-1124 Lonsdale N Van. 984-4349
Intro Microcomp Oct 17-Nov 14 \$169
MS-DOS Essentials Oct 24-Nov 14; Hard Disk Man. \$95
Comp. Solutions for Small Bus. Oct 17-Nov 14 \$179
COMPUTER PLACE 860 Burrard St, 299-3003
MS/PC-DOS Level I, Oct. 6, II, Oct 27 \$179
COMPUTER STATION 2130 Burrard Vancouver 732-8621
Intro to Micros, Oct. 5, 18 \$180
COMPUTERLAND 1035 W Pender 683-6152.
Hard Disk Management Oct 6, 12, 17, 25 \$180
DRAKE COMPUTER TRAINING 100-1111 Melville 669-8789
DOS Intro Oct 4 (Eve), 5, 18;
Adv Oct 5; DOS Video Intro Oct 5 \$125
DOPPLER 101 W. 5th, Vancouver 875-0261
Intro: Micros & DOS Call for dates \$175
FIALA, BONNER 810-1112 W Pender St. 684-1022
Intro to Computers; Parent/child; DOS 1 & 2 Call \$175
KWANTLEN COLLEGE, Surrey, B.C. 588-4411.
Computers Intro Oct 1, Oct 14-Dec 9; DOS Intro Oct 5-
12, 19-26; Intro to Microcomputers & DOS, Oct. 1-Nov. 19 \$75
Intro. to Microcomputers & DOS, Oct. 3-7 \$200
Intro to Microcomputers & DOS, Oct. 11-14 \$160
Managing Your Hard Disk Call for dates \$35
Intro to IBM PC Oct 24, 25, Dec 5;
Underst. MS-DOS Oct 25 \$85
Intro to IBM-PC, Oct. 15 \$60
MICROAGE 3609 W 16th Ave, 222-1010
Intro to PCs/DOS, Advanced DOS Call for dates \$175
ONCOURSE LEARN CENT 400-1190 Melville 669-9800
Using the Microcomp. Oct. 4, 18, Nov 7; Keyboarding Oct
5, 19, Nov 8; Using DOS Oct 6, 20, Nov 9 \$225
PBSC TRAINING CENTRE 1350-1140 W. Pender 689-7272
Intro to PC; DOS 1 & 2, Advanced Call for dates \$175
PCTI, 200-247 Abbot St Van. 682-5448 12 hour courses
Intro to IBM-PC and popular software \$150

COMPUTER PAPER COMPUTER CALENDAR

PITMAN BUS. COLLEGE 1490 W. Broadway 738-7848
Intro to Business Software, Orientation MS-DOS
PRECEPT LEARNING CENTRE 735 Clark Dr 255-3198
Intro to PCs Oct 3,13; Harnessing the Power of DOS Lev I
Oct 17-26, Lev II Oct 6,7 \$145
PRIMA TRAINING CENT 207-3900 Hastings, Van 294-4567
Microcomp. Intro,
Getting to Know your PC Hard Drive \$105
PROFESSIONAL TRAINING 502-1185 W Georgia, 681-5903.
DOS Oct. 3,11,17,24,31 \$175
SOUTH GRANVILLE BUS CENT 1652 W 7, Van 732-8850
DOS Call for info
UBC Centre for Continuing Education
MS-DOS: Beg. Guide Oct. 1; Inter Oct 15; Adv Nov \$560
Keyboard Skills Call for dates \$50
Learning about Microcomputers \$185
VANCOUVER COMMUNITY COLLEGE 875-8200
Intro Comp Concepts, DOS Op Sys Oct.29;
LAN Oct.27 \$175
VANCOUVER SCHOOL BOARD 736-7241
Intro IBM PC King G Oct 31 Pt Grey Oct 26,31, Van Tech
Oct 25, Kill, Oct. 26, Kins, Oct. 27, Brit, Oct. 29;
Novell Local Area Network Oct 27, J Oliver \$80
PC Troubleshooting II, Oct. 24, Vanc. Tech. \$55
Computers in the Legal Office, Oct. 26, King George \$80
Sales & Mktg with Computers, Oct 27 Killarney \$80
PS2/OS2 Intro, Oct. 31, John Oliver \$95
VANCOUVER DESKTOP PUBLISHING CENTRE Ltd
1150 Homer St 681-9161, Stephen Osborne, Roedy Green
Introduction MSDOS Call for dates \$119
Taking Command of MSDOS \$69
Supercharging the Office PC \$129
Under the Hood: Troubleshooting \$129

WORD PROCESSING

ACCESS CENTRE Lonsdale Quay 984-4671
Basic Skills: computer-based training, anytime. \$125
WordPerfect, MSWord, Displaywrite, Multimate \$140
BCIT, 3700 Willingdon Ave., Burnaby, 434-1610.
Microsoft Word, Oct. 25 \$95
BARKEL BUSINESS SCHOOL 211-3030 Coquitlam 464-8717
WordPerfect, WordStar Call for dates \$80
BURNABY SCHOOL BD, 5325 Kincaid St., Burnaby 299-4361.
AES Alpha + Indivld. Prog. Oct. 3 \$40
Appleworks, Oct. 25; Wordperfect Lev II, Oct. 25 \$80
BUSINESS CENTRE, 300-1497 Marine Dr, WVan. 925-1147
WordPerfect \$149
CAPILANO COLLEGE 2055 Purcell Way, North Van 984-4901
Shareware Series: PC-Write Nov 4/5 \$125
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WordPerfect 5.0 Workshop Oct 19-Nov 9, Oct 25 & 27 \$169
COMPUTER PLACE 860 Burrard St, 688-2992
WordPerfect I Oct 13,25, II Oct 20,26; MS-Word Oct 35 179
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COMPUTER STATION 2130 Burrard, Van 732-8621
WordPerfect, Word, MultiMate, DisplayWrite 4,
Oct. 5,14,21,27 \$180
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Display Write 4 Intro Oct 13,25; Inter Oct 27; Microsoft
Word Office. Skills, Oct. 20; Adv. Oct. 20; MultiMate Adv. II
Intro, Oct 7; Inter Oct 17; Adv., Oct. 26; \$180
WordPerfect 4.2 Oct. 13-14; 5.0 Oct 3,4,20,21 \$325
WordPerfect 5.0 Inter, Nov 1,18; Adv. Nov 4,28 \$180
Microsoft Word Basic Oct. 3,4,19,20 \$325
DAC COMPUTER TRAINING, 682-2627.
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WordStar 2000 \$175
DRAKE COMPUTER TRAINING 100-1111 Melville 669-8789
Display Write 4 Intro Oct. 3 Inter Oct 17; WordPerfect
Intro Oct 7,11,12,17,25; Inter Oct 3, Adv Oct 4; Word Perfect
Upgrade, Oct 7,31; Microsoft Word Intro Oct. 11, Inter Oct 24;
MultiMate Intro Oct. 21 \$175
KWANTLEN COLLEGE, P.O. Box 9030, Surrey 588-4411.
Microsoft Word Intro \$140
Wordperfect, Intro Oct. 1, 18-25 \$75
Wordperfect, Intro Oct. 3-7, 17-21 \$200
Word Proc., Mcom/Wang, Oct. 29-Nov. 26 \$250
LANGLEY/SEC. SCH., Rm 88, 21405 - 56th Ave 533-4227.
Word Perfect Oct 27; Word Proc I, Oct 24; II Oct 24 \$85
MICROAGE 3609 W 16th Ave 222-1010
MS Word, Oct. 7,21 \$175
Word Perfect Part I, Oct. 5, Part 2, Oct 19
ONCOURSE TRAINING 400-1190 Melville 669-9800
WordPerfect Oct 5,6,27,28; Applying WordPerfect Oct 19,20
Nov 1,2; Multimate Oct 11,12 Nov 3,4; MS Word Oct 13,14
Nov. 1,2 \$225
PBSC TRAINING CENTRE 1350-1140 W. Pender St 689-7272

DisplayWrite 4 1&2; Microsoft Word 1,2&3; Multimate
Adv II 1,2&3 WordPerfect Lev 1,2&3 \$175
PCTI 200-247 Abbot Van. 682-5448
Multi-Mate Adv II; MS Word; WordPerfect 4.2 \$150
Typing Tutor IV \$75
PITMAN BUS. COLLEGE 1490 W Broadway 738-7848.
Word Proc- Concepts & Theories; Apple; Prodn; Adv
PRECEPT LEARNING CENTRE 735 Clark Dr 255-3198
Wordperfect Lev I Oct 6,7; Lev 2 Oct 20,21 \$145
Word Oct 4, 17, Advanced Word Oct 31 \$145
PRIMA TRAINING CENT 207-3900 Hastings, Bby, 294-4567
WordPerfect 2 wks, Adv 4 wks \$150
PROFESSIONAL TRAIN. ASS. 502-1185 W Georgia 681-5903.
MS Word 4.0 Lev I Call WordPerf Lev I Oct 12-13 \$350
WordPerfect Level II Oct. 14 \$175
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WordPerfect DisplayWrite 3 Multimate Adv or AES Call
UBC Centre for Continuing Ed Courses at Old Bookstore, UBC
MS-Word 4 Inter & Word Perfect: Inter Oct 18-Nov 8 \$185
VANCOUVER COMMUNITY COLLEGE 875-8200
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Adv Oct 19, Oct 26; Multim Intro Nov 1 MS-Word Intro
Oct 1,17,19; MS-Word Inter Oct 26; Adv Oct. 24-Nov. 7 \$145
Using WordPerfect Oct. 25 \$175
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Display Write 4 Oct 26 J Oliver; MSWord 4.0 Lev II, Oct
27, VanTech; Multimate Adv II, Oct 26, J Oliver; WordPerfect
LOct 31 J Oliver; Oct. 29, Tupper; Word Perfect II, Oct 25 J
Oliver; Word Perfect, Tips, Tricks & Traps; Oct 27 J Oliver \$80

USER GROUPS:

Amiga User Group (PaNorAmA), BCIT, Rm 129A General
Meets 2nd Wed 7:30; Programmers 4th Wed 7:30
Apples BC Computer Society Lorne 467-6062, Oct 1-Pacific
Coast Computer Fair, McPherson Cent, Bby (flea market &
user group displays), Oct. 10 - ABCCS Exec Meet Oct. 26 -
regular monthly Oct. MAC meeting.
Apple II User Group Meeting BC Apple Society, Burnaby
Rugby Club, Oct 3 regular meeting Kiyo Masuda 437-9935
Apple III SIG Monthly Kiyo Masuda 437-9935
Beaver Valley Commodore Club Meets first Tues every
month at Montrose School Library. Call John Vink 367-
6426
B.C. Unix User's Group meets 4 times a year. Call George
Pajari 925-2555, 2545 Queens Ave, West Van VTY 2Y9.
Clipper Developers Association 1st Mon SFU 873-0747
Commodore Club 1st Tues Sunset Comm Cent 738-3311
Forth Interest Group Speakers and Tutorials on Forth hard,
soft & applic. Meets 7:30 1st Thurs, BCIT main bldg, 3700
Willingdon Rm. 1A-324
Kaypro User Group Vancouver Portable Computer Club
3rd Monday at Kaypro (CP/M) 278-5776
Mac User Group Meeting BC Apple Society, WCB
Building, 6951 Westminster Hwy (Kiyo Masuda) 437-9935.
Mainland Mac Rm 115 Kwantlen College, Surrey, 574-3813,
Ron Haidinger. Call for info
Maple Ridge Computer User Group 467-2647 M.R.
Sr. Secondary School 7:30 PM, Free
NEC APC Users Group Bi-monthly Lee 980-5825
North Am. Amstrad User's Group, 65-13880 - 74th Ave,
Surrey V3W 7E6 597-0881 R. Scott
Novell Network Users Peter Whitelaw 669-8789 monthly
Port Coq. Computer Club Commodore Amiga & IBM 1st
and 3rd Tues 7:30 Poco Rec Cent 2100 Wilson Ave 942-
4286
Software B.C. General Meetings, 3rd Thurs of month in Van-
couver, #400 - 1190 Melville St, Vancouver, 684-7432.
Tandy 1000+ Club Meets 2nd Mon. 7pm Kwantlen College,
Newson Campus, Rm 209 or 211. Len Boscoe 574-5419
Sur-Tandy 1000+ Club
The New Apple Alliance May Chow 435-7609 1st Saturday
of month in Kitsilano Neighbourhood House.
TI Computer Club Central Richmond. Meets 2nd Wed of
each month. Phone Keith at 261-2739
Trace (Richmond Atari Club) Thompson Cornu. Centre
Linus Lane Richmond, 272-5789 1st & 2nd Monday 7:30-
9:30
Vancouver Electronic Publ. Assoc. Box 24776, Van 875-
0677 Gen. meet. 1st Mon. 7pm, BC Club, Enterprise Cent,
750 Pacific Blvd S. Commodore & QMS Product Demos
Vancouver Network User's Group Les Lebrant 275-2829.
Meets 1st Mon of the month.
Vancouver PC Users Group Planetarium 734-0060, \$20/year
membership. 7:00 pm 2nd Thurs
Van. Sinclair Users Group Supports all Timex-Sinclair com-
puters. 2nd Fri. Killarney Comm. Cent., Gerde 931-5509
Vantari 34-3046 Coast Meridian, Pt. Coq. Judy Hercus or
Don Hatch, Hastings Comm. Ctr 3096 E Hastings, 2nd Wed.
Wang System User Assoc. 736-8841 ext 227 J.P. Doiron
99 Users Group Every Thurs. 7:10 pm, Cameron Rec Cent.,
Bby, Ron 522-2598. 1st Thurs Games, 2nd Thurs General
3rd Thurs Tutorials 4th Thurs Copying Prog.

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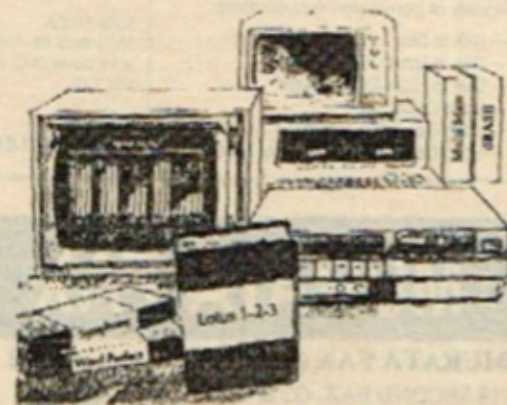


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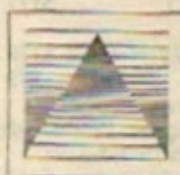
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